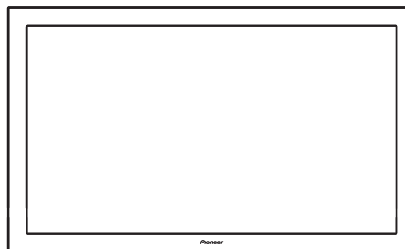


Service Manual



PDP-LX6090

ORDER NO.
ARP3482

FLAT SCREEN TV

PDP-LX6090

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-LX6090	WYSIXK5	AC 220 V to 240 V	
PDP-LX6090	WYS5	AC 220 V to 240 V	



For details, refer to "Important Check Points for good servicing".

SAFETY INFORMATION



This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
6. Perform the following precautions against unwanted radiation and rise in internal temperature.
 - Always return the internal wiring to the original styling.
 - Attach parts (Gasket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
7. Perform the following precautions for the PDP panel.
 - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
 - Make sure that the panel vent does not break. (Check that the cover is attached.)
 - Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
8. Pay attention to the following.
 - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 4 M Ω .

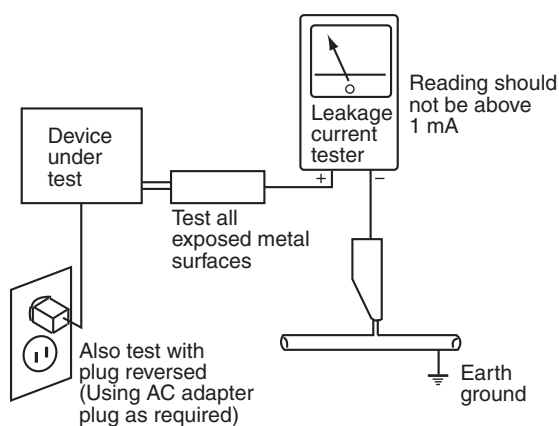
The below 4 M Ω resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).

Turn the AC power switch on.

Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1 mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

A

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety



Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

- ① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

- ② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification (addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

- ③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

- ④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

- ⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

- ⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

- ⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

- ⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

- ⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

- ⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments



To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts



Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning



For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws



To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

F

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1. SERVICE PRECAUTIONS

1.1 NOTES ON SOLDERING

A

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.
- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 °C.
Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 °C in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Do NOT use a soldering iron whose tip temperature cannot be controlled.

B

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:

- Parts numbers of lead-free solder:
GYP1006 1.0 in dia.
GYP1007 0.6 in dia.
GYP1008 0.3 in dia.

C

D

E

F

■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer. If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. Power Cord
2. AC Inlet
3. Power Switch
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer (In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.

The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in “5.6 [1] PANEL DRIVE-POWER ON/OFF FUNCTION” are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

60F X DRIVE Assy	.....	(210 V)
60F Y DRIVE Assy	.....	(-280 V to 420 V)
60F SCAN A Assy	.....	(-280 V to 420 V)
60F SCAN B Assy	.....	(-280 V to 420 V)
60F SCAN C Assy	.....	(-280 V to 420 V)
60F SCAN D Assy	.....	(-280 V to 420 V)

- : Part is Charged Section.
- : Part is the High Voltage Generating Points other than the Charged Section.

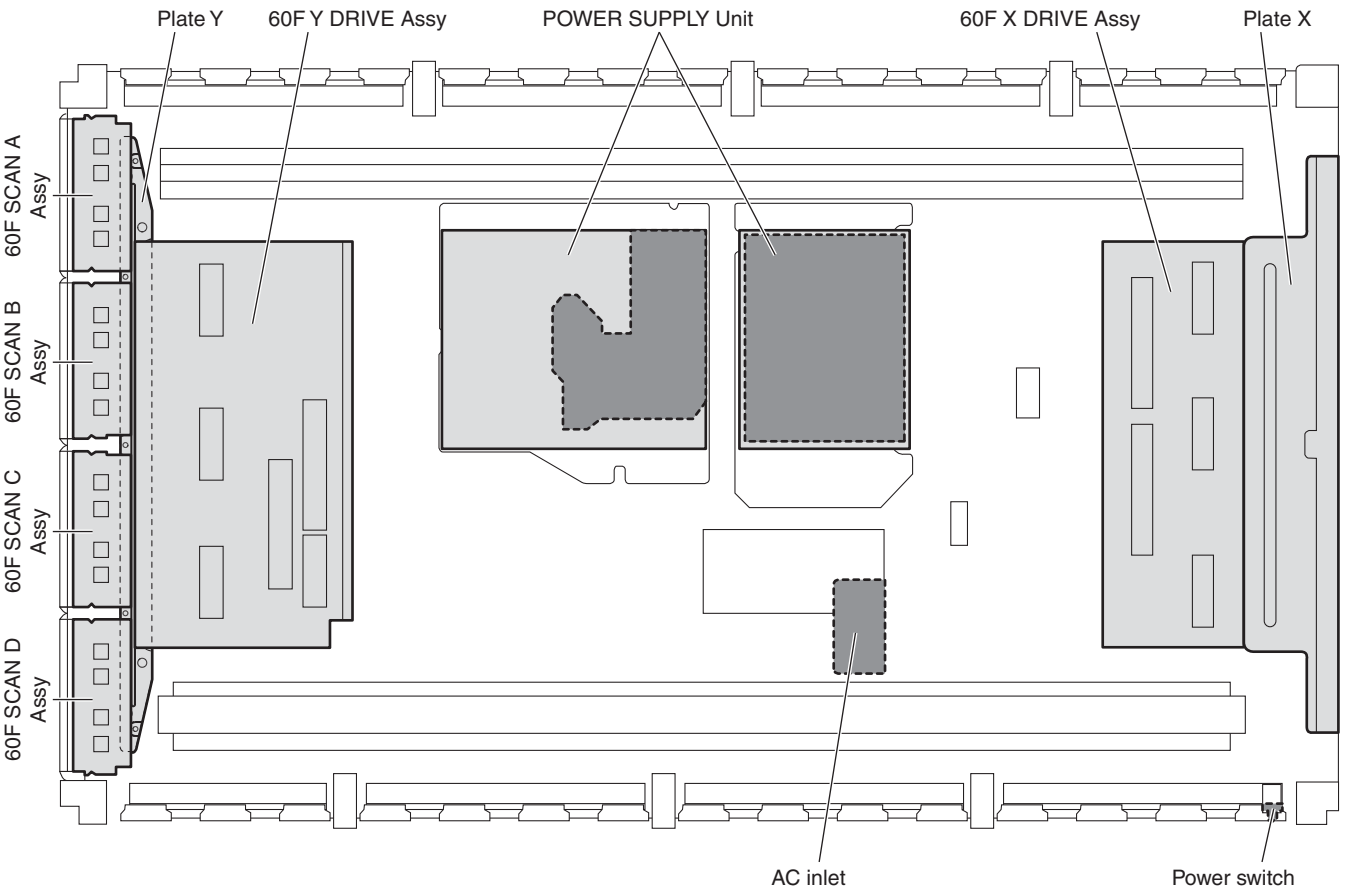


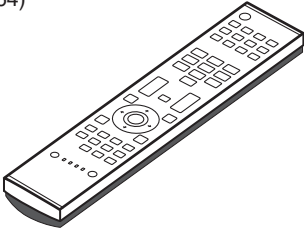
Fig. High Voltage Generating Point (Rear view)

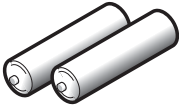
2. SPECIFICATIONS

2.1 ACCESSORIES

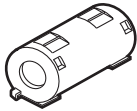
A

- Remote control unit
(AXD1564)



- Dry cell battery (R6, AA) (×2)
(for remote control unit)

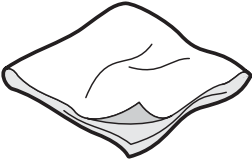

- Ferrite core
(ATX1039)

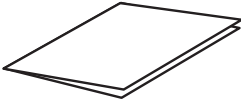
• Ferrite core



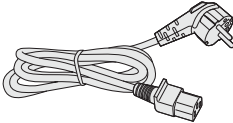
• Cable tie (for ferrite core)


- Cleaning cloth (AED1285)

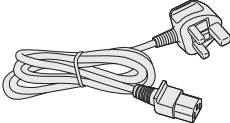

- Warranty card


- Power cable
Only the power cable appropriate for your country or region
is supplied:

(ADG1214)

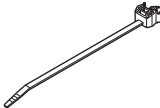


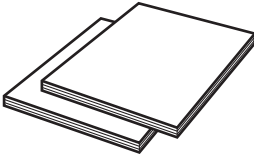
For Europe, except UK and Republic of Ireland
- (ADG1223: WYSIXK5 only)



For UK and Republic of Ireland
- Binder Assy
(AEC2158)

• Cable clamp (×4)


- Operating instructions (×2)
(ARE1492: WYSIXK5 only)
(ARC1606: WYSIXK5 only) or (ARC1618: WYS5 only)



D

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2.2 SPECIFICATIONS

Item			60" flat screen TV, model: PDP-LX6090
Number of pixels			1920 x 1080 pixels
Audio amplifier			18 W + 18 W (1 kHz, 10 %, 6 Ω)
Sound Effect			SRS FOCUS/SRS/SRS TruBass/SRS Definition
Power Requirements			220 V to 240 V AC, 50 Hz/60 Hz, 510 W (0.4 W Standby)
Weight			50.8 kg (112.0 lbs.)
Colour System	Analogue		PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60
	Digital		PAL/SECAM
TV Function (Analogue)	Receiving System		B/G, D/K, I, L, L'
	Tuner	VHF/UHF	E2–E69 ch, F1–F6 ch, I21–I69 ch, IR A–IR J ch
		CATV	Hyper-band, S1–S41 ch
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort
	STEREO		NICAM/A2
TV Function (Digital)	Receiving System		DVB-T(2K/8K COFDM)
	Tuner	VHF/UHF	VHF Band III (170 MHz to 230 MHz) and UHF Band IV, V (470 MHz to 862 MHz)
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort
	STEREO		MPEG layer I/II, Dolby Digital
Terminals	Rear	INPUT 1	SCART (AV in, RGB in, TV out), HDMI in ^{*1}
		INPUT 2	SCART (AV in/out, S-VIDEO in, AV link ^{*2}), Component Video in, AUDIO in
		INPUT 3	SCART (AV in/out, S-VIDEO in, RGB in, AV link ^{*2}), HDMI in ^{*1}
		INPUT 4	HDMI in ^{*1}
		CONTROL OUT	1
		SPEAKERS	6 Ω to 16 Ω
		Antenna	75 Ω Din Type for VHF/UHF in
		PC INPUT	Analogue RGB in, Audio in
		AUDIO OUT	AUDIO out (Fixed)
		SUB WOOFER OUT	Variable
		DIGITAL OUT	Digital audio output (Optical)
		COMMON INTERFACE	CA Module
	Side	INPUT 5	VIDEO in, AV in
		USB	USB in ^{*3}
		PHONES	16 Ω to 32 Ω recommended

^{*1} This conforms to HDMI1.3 (Deep Colour) and HDCP1.1. HDMI (High-Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

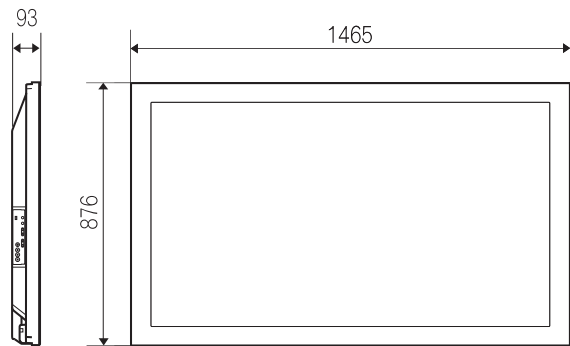
^{*2} Switchable from menu.

^{*3} This conforms to USB 1.1 and 2.0 specifications.

Design and specifications are subject to change without notice.

Dimensions

PDP-LX6090
Unit: mm



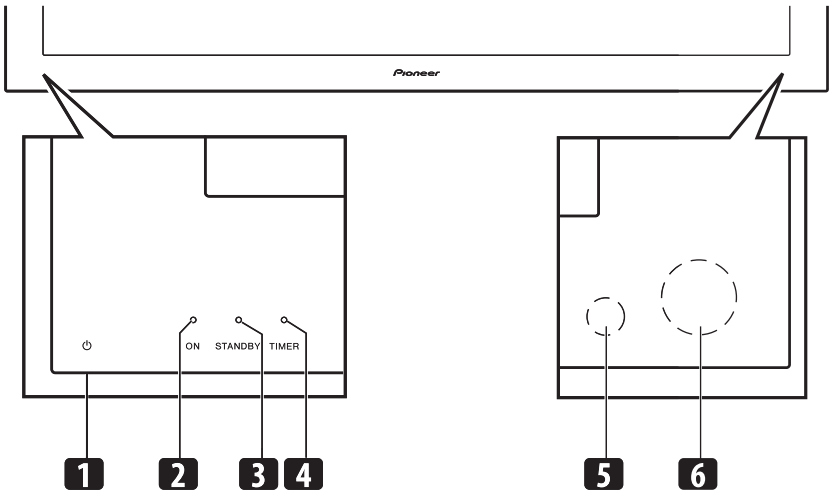
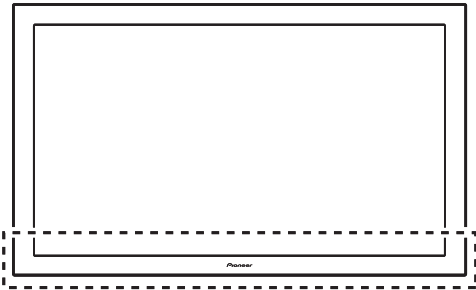
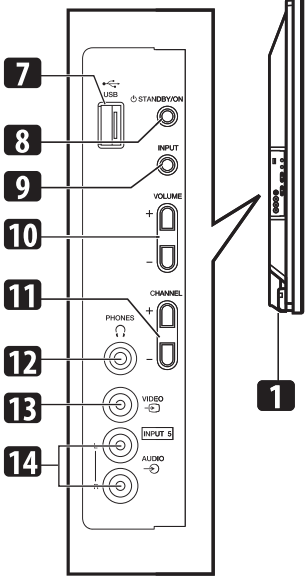
2.3 PANEL FACILITIES

Front Section

(Front)

Side

(PDP-LX6090)



The terminals on side panels are common to the PDP-LX6090 and PDP-LX5090.

- 1

2

3

4
- 5

6

7

8

9

10

11

12

13

14
- 1 button (This button is located at the bottom on the rear panel. (See **1** on page 13.) If the button is off, the power will not turn on even when , **0** to **9** on the remote control unit or **STANDBY/ON** on the flat screen TV is pressed. To turn on the power, press .)

2 POWER ON indicator

3 STANDBY indicator

4 TIMER indicator

 - The TIMER indicator lights up when one or more DTV programmes are preset for watching or recording (see pages 47 to 49).
- 5 Room Light Sensor

6 Remote control sensor

7 USB port

8 **STANDBY/ON** button

9 **INPUT** button

10 **VOLUME +/-** buttons

11 **CHANNEL +/-** buttons

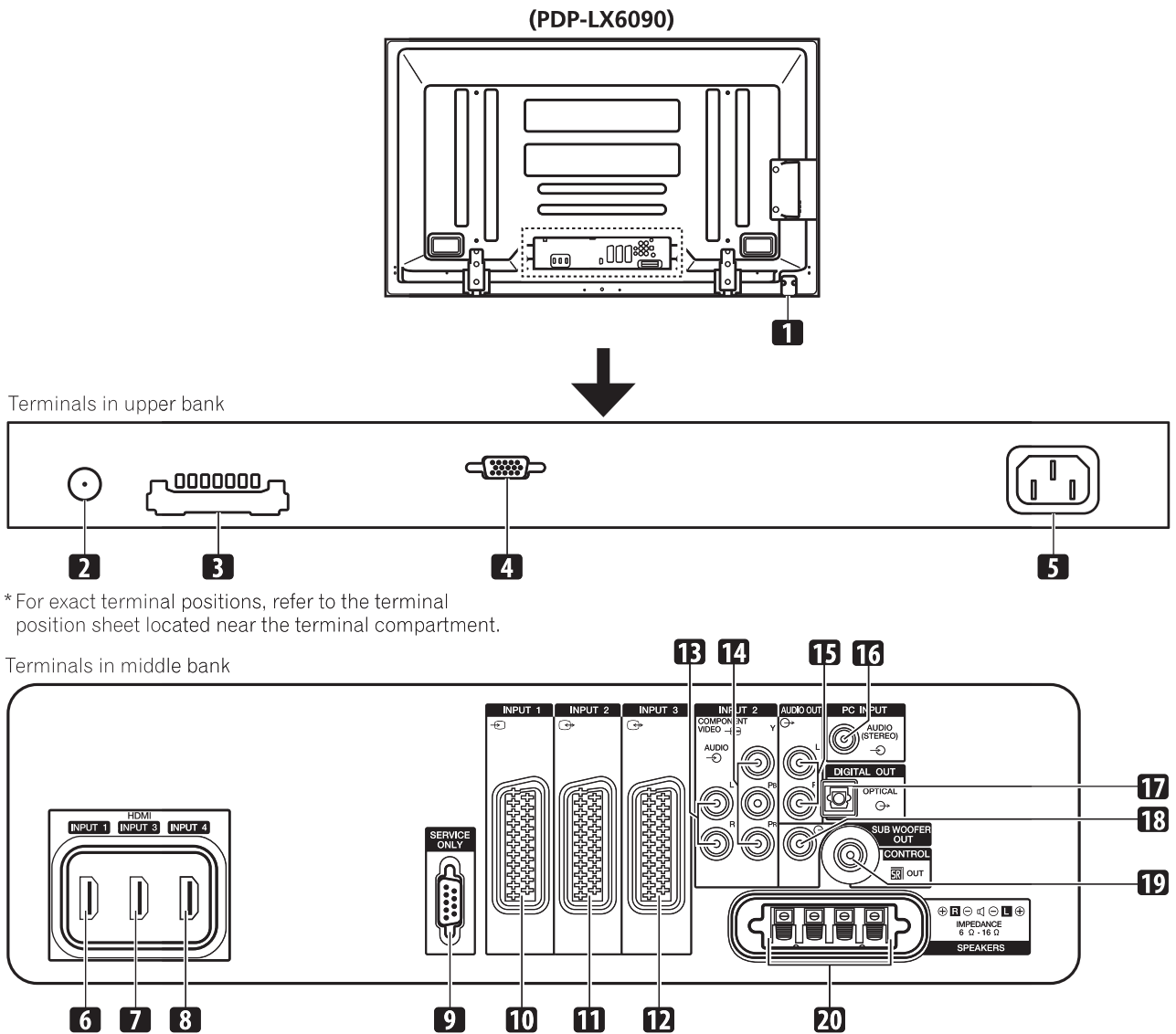
12 PHONES output terminal

13 INPUT 5 terminal (VIDEO)

14 INPUT 5 terminals (AUDIO)

Rear Section

(Rear)



*For exact terminal positions, refer to the terminal position sheet located near the terminal compartment.

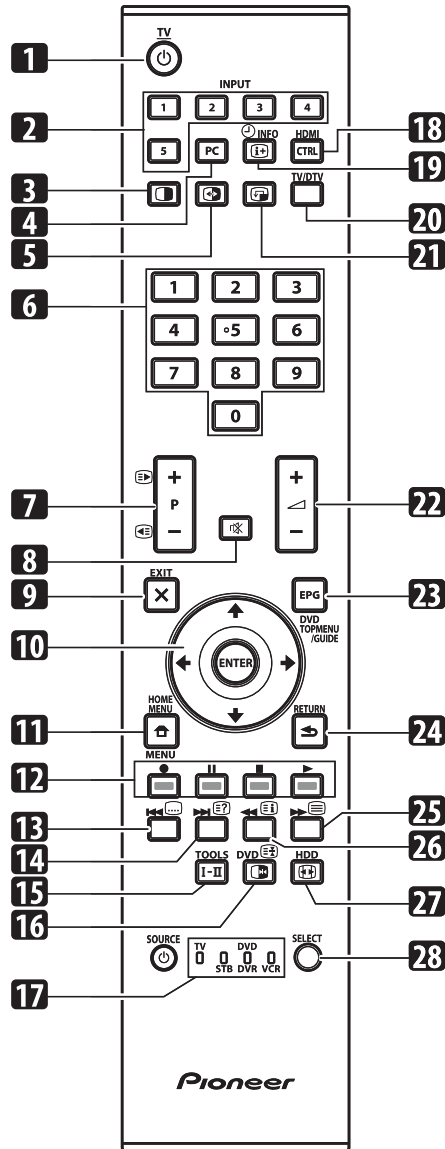
The terminals on the rear panel are common to the PDP-LX6090 and PDP-LX5090.

- | | |
|---|--|
| <p>1 button</p> <p>2 ANT (Antenna) input terminal</p> <ul style="list-style-type: none"> Power can be supplied through this terminal <p>3 COMMON INTERFACE slot</p> <ul style="list-style-type: none"> For a CA Module with a smart card <p>4 PC INPUT terminal (Analogue RGB)</p> <p>5 AC IN terminal</p> <p>6 INPUT 1 terminal (HDMI)</p> <p>7 INPUT 3 terminal (HDMI)</p> <p>8 INPUT 4 terminal (HDMI)</p> <p>9 RS-232C terminal (used for factory setup)</p> <p>10 INPUT 1 terminal (SCART)</p> <p>11 INPUT 2 terminal (SCART)</p> | <p>12 INPUT 3 terminal (SCART)</p> <p>13 INPUT 2 terminals (Audio)</p> <p>14 INPUT 2 terminals (COMPONENT VIDEO: Y, P_B, P_R)</p> <p>15 AUDIO OUT terminals</p> <p>16 PC INPUT terminal (Audio)</p> <p>17 DIGITAL OUT terminal (OPTICAL)</p> <p>18 SUB WOOFER OUT terminal</p> <p>19 CONTROL OUT terminal (supports SR+)</p> <p>20 SPEAKERS terminals (right/left)</p> <ul style="list-style-type: none"> Do not connect any devices to the speaker terminals other than the speakers specified. Do not leave speaker cable wires bare and exposed at the terminals. Exposed wires can result in an electrical short causing malfunction or damage to the system. |
|---|--|

A

Remote Control Unit

This section describes the functions of the buttons available when the TV mode has been selected by using the **SELECT** button.



- 1 **TV:** Turns on the power to the flat screen TV or places it into the standby mode.
- 2 **INPUT:** Selects an input source of the flat screen TV. ("INPUT 1", "INPUT 2", "INPUT 3", "INPUT 4", "INPUT 5")
- 3 **2-SCREEN:** Switches the screen mode among 2-screen, picture-in-picture, and single-screen.
- 4 **PC:** Selects the PC terminal as an input source.

- 5 **2-SCREEN:** Switches between the two screens when in the 2-screen or picture-in-picture mode.
- 6 **0 to 9:** TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.
- 7 **P+/P-:** TV/External input mode: Selects a channel.
TELETEXT: Teletext mode: Selects a page.
- 8 **MUTE:** Mutes the sound.
- 9 **EXIT:** Returns to the normal screen in one step.
- 10 **UP/DOWN/LEFT/RIGHT:** Selects a desired item on the setting screen.
ENTER: Executes a command.
- 11 **HOME MENU:** Displays the HOME MENU screen.
- 12 **Colour (RED/GREEN/YELLOW/BLUE):**
Teletext mode: Selects a page.
- 13 **TELETEXT:** Jumps to Teletext subtitle page.
Turns subtitle on and off in DTV input mode depending on the broadcast.
- 14 **TELETEXT:** Displays hidden characters.
- 15 **I-II:** Sets the sound multiplex mode.
- 16 **TV/EXTERNAL:** TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.
TELETEXT: Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.
- 17 **TV, STB, DVD/DVR, VCR:** These indicators show the current selection and status when you control other connected equipment, using the supplied remote control unit.
- 18 **HDMI CONTROL:** Displays the HDMI Control menu.
- 19 **INFO:** Displays the channel information.
Displays the banner information in DTV input mode.
- 20 **TV/DTV:** Switches between the TV and DTV input modes.
- 21 **PI-P:** Moves the location of the small screen when in the picture-in-picture mode.
- 22 **VOLUME:** Sets the volume.
- 23 **EPG:** Displays the Electronic Programme Guide in DTV input mode.
- 24 **RETURN:** Restores the previous menu screen.
- 25 **TELETEXT:** Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).
- 26 **TELETEXT:** Displays an Index page for the CEEFAX/FLOF format.
Displays a TOP Over View page for the TOP format.
- 27 **SCREEN SIZE:** Selects the screen size.
- 28 **SELECT:** Switches the selection among TV, STB, DVD/DVR, and VCR, so that you can control other connected equipment, using the supplied remote control unit.

Note

- When using the remote control unit, point it at the flat screen TV.

F

3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

Items to be checked after repair (PDP)

To ensure the quality of the product after repair, check the recommended items shown below:

No.	Procedures	Item to be checked
1	Check if all the symptoms pointed out by the customer have been addressed.	The symptoms in question must not be reproduced.
2	Connect the peripheral equipment.	Connect all external peripheral equipment as originally connected and check if the connections are correct.
3	Check the video and audio.	Tune in to the stations that the customer would normally receive and check if video and audio are normal.
4	Check the buttons and controls.	Use the buttons and controls on the remote control unit and main unit and check if they operate properly.
5	Check the cabinet.	Check for any scratches or dirt that have been made or attached on the cabinet after receiving the product for repair.

See the table below for the items to be checked regarding video and audio:

Item to be checked regarding video	Item to be checked regarding audio
Block noise	Distortion
Horizontal noise	Noise
Dot noise	Volume too low
Disturbed image (video jumpiness)	Volume too high
Too dark	Volume fluctuating
Too bright	Sound interrupted
Mottled color	

Cleaning



Name	Part No.	Remarks
Cleaning paper	GED-008	Used to fan cleaning. Refer to "9.4 CHASSIS SECTION (1/2)".

A

Quick Reference upon Service Visit ①

Notes, PD/SD diagnosis, and methods for various settings

Notes when visiting for service

1. Notes when disassembling/reassembling

- ① Rear case
- When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "7. DISASSEMBLY".
- ② Attaching screws for the HDMI connector
- When attaching the HDMI connector after replacing the Main Assy, secure the HDMI connector manually with a screwdriver, but not with an electric screwdriver. If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

2. On parts replacement

- ① How to discharge before replacing the Assys
- A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:
A: Let the panel sit at least for 3 minutes after the power is turned off.
B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.
For details, see "5.6 [1] PANEL DRIVE-POWER ON/OFF FUNCTION".
- ② On the settings after replacement of the Assys
- Some boards need settings made after replacement of the Assys. For details, see "8. EACH SETTING AND ADJUSTMENT".

3. On various settings

- ① Setting in Factory mode
- After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

PD/SD			Subcategory confirmation procedure	
Item	No. of LEDs flashing		If the DISPLAY key is pressed during shutdown, the orange LED flashes. For indication patterns other than described below, see 5.4 [2].	
	Red	Blue	SD SD Subcategory	
SQ_LSI		Blue 1	1	EEPROM
Module device communication		Blue 2	2	BACKUP
DIGITAL-RST2		Blue 3	3	DAC
Panel temperature		Blue 4	4	1 PANEL high temperature
Audio		Blue 5	2	PANEL low temperature
Module UCOM communication		Blue 6	1	Tuner 1
Main 3-wire serial communication		Blue 7	2	MSP/MAP
Main IIC communication		Blue 8	3	AV Switch
Main UCOM communication		Blue 9	4	RGB Switch
FAN		Blue 10	8	5 Main VDEC
Unit high temperature		Blue 11	6	VDEC-SDRAM
D-TUNER communication		Blue 12	7	AD/PLL
MTB-RST2/RST4		Blue 13	8	HDMI
Main EEPROM		Blue 15	13	COFDEM (PDP-LX6090 only)
			1	RST2
			2	RST4
			LED Display Information	
POWER			For indication patterns other than described below, see 5.1 [1].	
SCAN			① Rewriting software	
SCN-5V			B R	
Y-DCDC			② No backup	
Y-SUS			B R	
ADRS			③ PD (2-15)	
X-DCDC			B R	
X-SUS			④ SD (1-15)	
DIG-DCDC			B R	
UNKNOWN				

How to locate several items on the Factory menu

- { } : Item on the Factory menu
- [] : Key on the remote control unit
- " " : Screen indication

1. Confirmation of accumulated power-on time and power-on count

Select {INFORMATION} then {HOUR METER}.

(After entering Factory mode, press [↓] four times.)

2. Confirmation of the Power-down and Shutdown histories

- ① Panel system
- PD: Select {PANEL FACTORY} then {POWER DOWN}.
- (After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [↓] two times.)
- SD: Select {PANEL FACTORY} then {SHUT DOWN}.
- (After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [↓] three times.)
- ② MTB section
- Select {INFORMATION} then {MAIN NG}.
- (After entering Factory mode, press [↓] two times.)

3. How to display the Mask indication

- ① Mask indication in the panel side
1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
- (After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [↓] 8 times.)
2. Press [ENTER/SET], then select a Mask indication, using [↑] or [↓].

Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

1. Digital Video Assy: Transfer of backup data

- ① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [↓] seven times, then press [ENTER/SET].)
- ② Select {TRANSFER}, using [→], then hold [ENTER/SET] pressed for at least 5 seconds.
- ③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

2. MAIN Assy: Execution of FINAL SETUP.

- ① Select {INITIALIZE} then {FINAL SETUP}, then press [ENTER/SET]. (After entering Factory mode, press [MUTING] three times, then press [↓] four times.)
- ② Select "YES", using [→]. Then hold [ENTER/SET] pressed for at least 5 seconds.
- ③ After "FINAL SETUP IS COMPLETE" is displayed on the screen, turn the POWER switch of the main unit off.

3. POWER SUPPLY Unit: Clearance of the accumulated power-on count and maximum temperature value

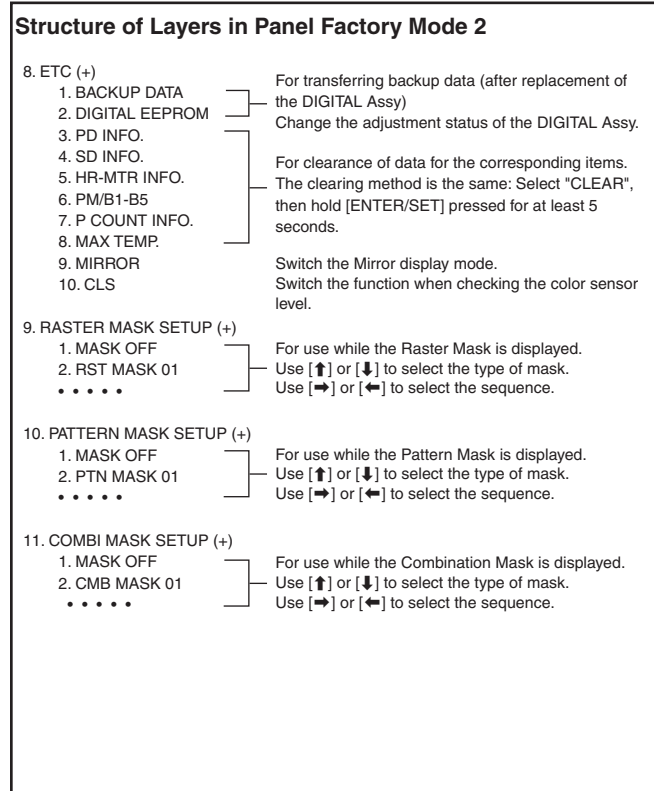
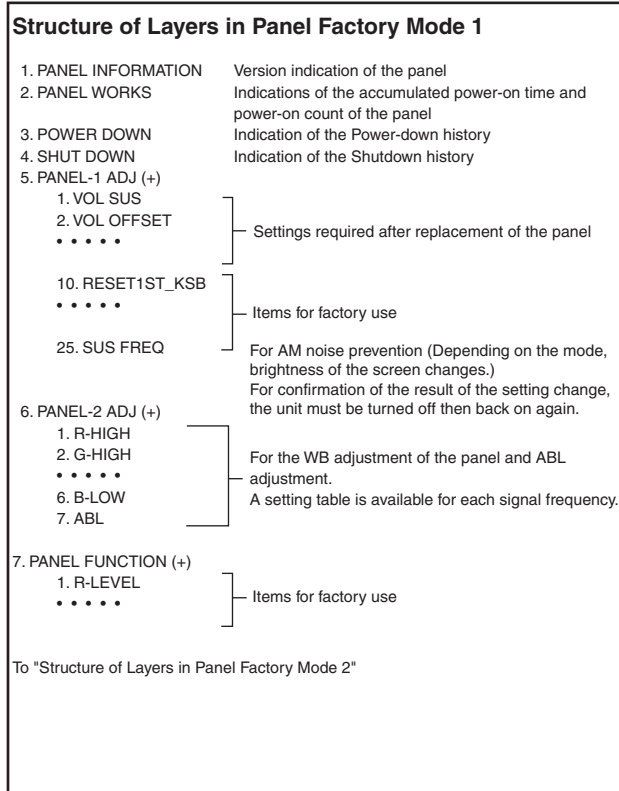
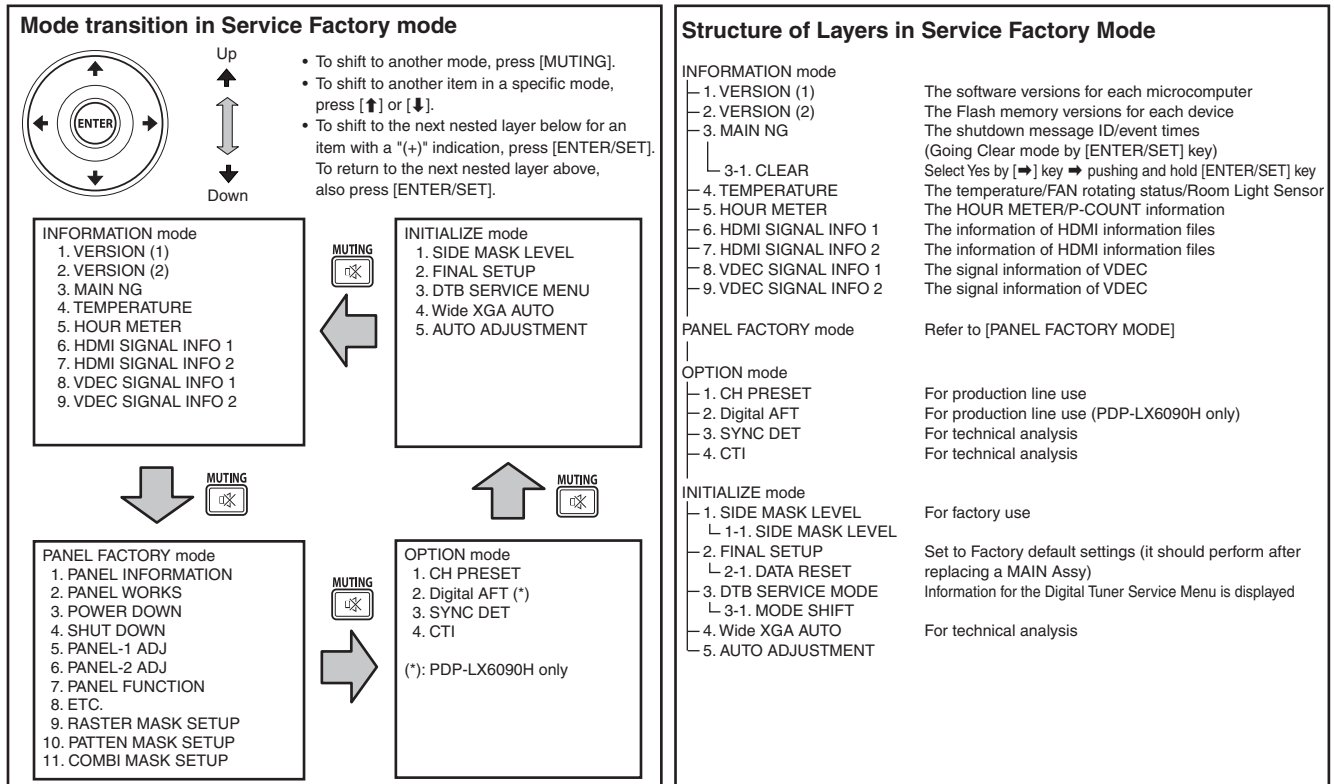
- ① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [↓] seven times, press [ENTER/SET], then press [↓] six times.)
- ② Press [→] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

4. Other Assys: Clearance of the maximum temperature value

- ① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [↓] seven times, press [ENTER/SET], then press [↓] seven times.)
- ② Press [→] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected.

Quick Reference upon Service Visit ②

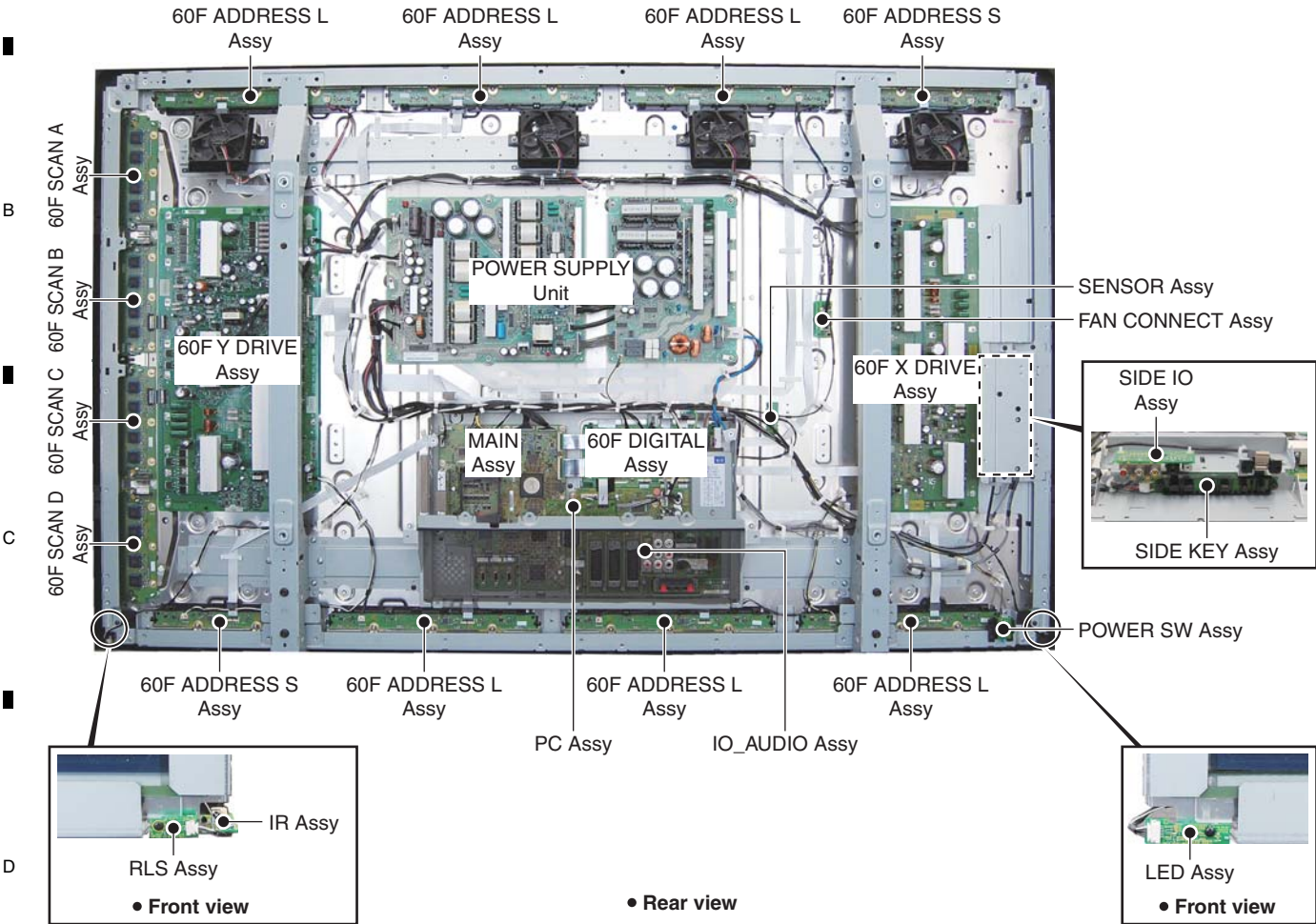
Mode transition and structure of layers in Service Factory mode



3.3 PCB LOCATIONS

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Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.



NOTES: ● Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.
● The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
LIST OF ASSEMBLIES							
E	NSP	60F ADDRESS L ASSY	AWW1341	⚠	MAIN ASSY	AWV2555	
	NSP	60F ADDRESS S ASSY	AWW1342				
	NSP	60F SCAN A ASSY	AWW1343		IO_AUDIO ASSY	AWW1354	
		└ IC2801 - IC2804	AN16184A		SIDE IO ASSY	AWW1358	
	NSP	60F SCAN B ASSY	AWW1344		PC ASSY	AWW1359	
		└ IC2901 - IC2904	AN16184A		SIDE KEY ASSY	AWW1361	
	NSP	60F SCAN C ASSY	AWW1345		LED ASSY	AWW1362	
		└ IC3001 - IC3004	AN16184A				
	NSP	60F SCAN D ASSY	AWW1346		IR ASSY	AWW1363	
		└ IC3101 - IC3104	AN16184A		FAN CONNECT ASSY	AWW1364	
F		SENSOR ASSY	AWW1340		RLS ASSY	AWW1365	
		60F DIGITAL Assy	AWW1339	⚠	POWER SW ASSY	AWW1366	
				⚠	POWER SUPPLY UNIT	AXY1201	
		60F X DRIVE ASSY	AWV2540	⚠	PDP SERVICE ASSY 609FE	AWU1347	
		60F Y DRIVE ASSY	AWV2541				

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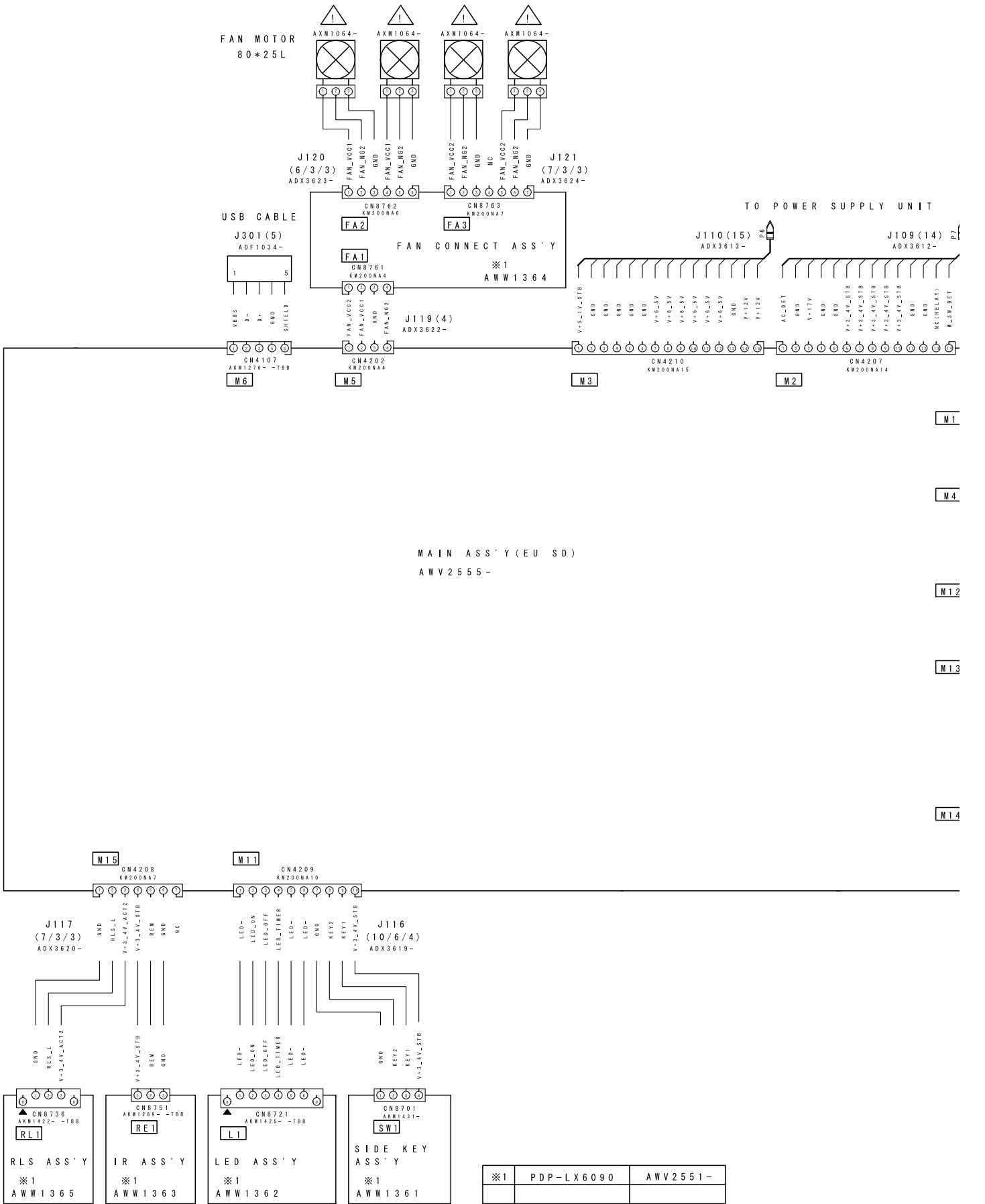
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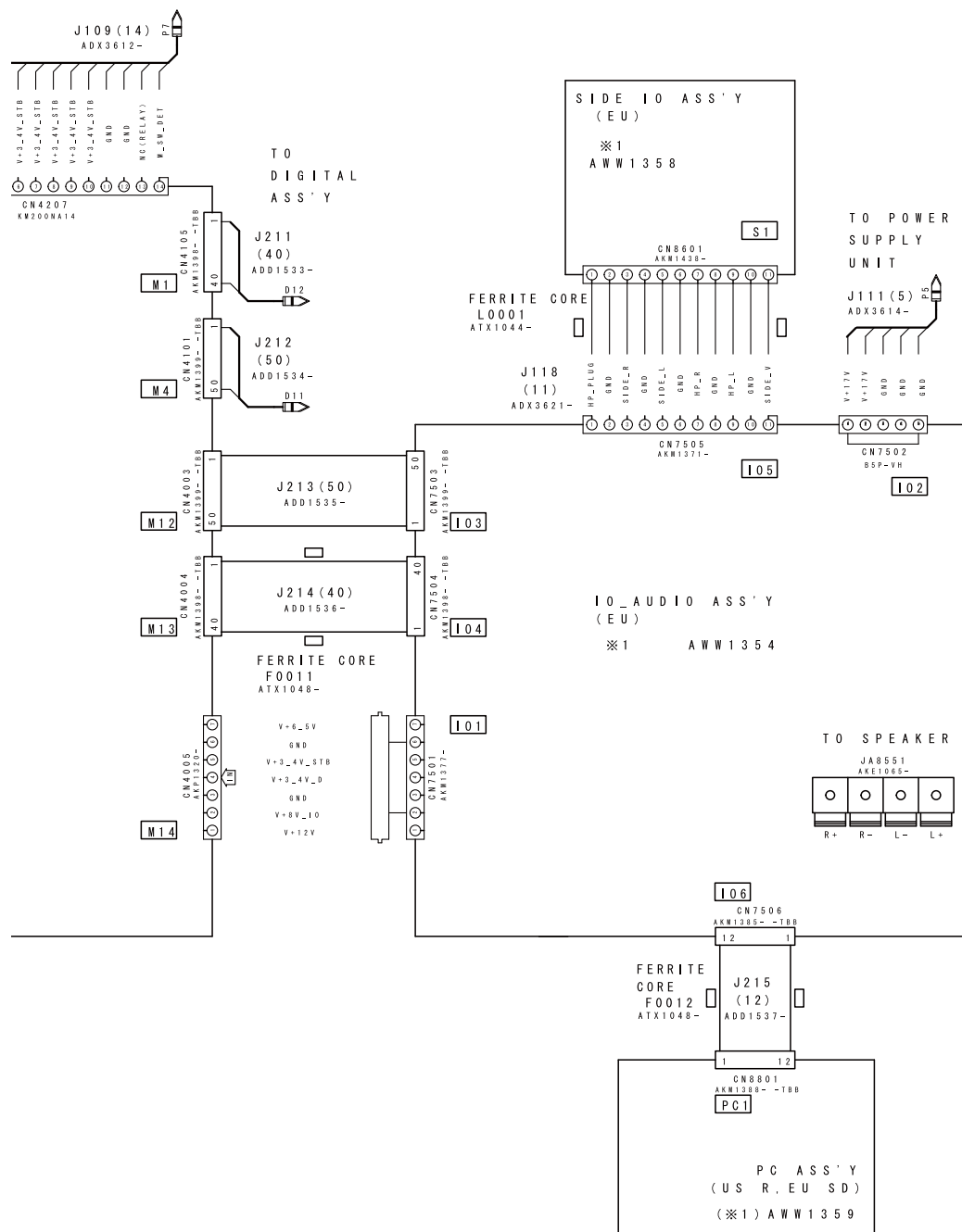
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SUPPLY UNIT

OVERALL DIAGRAM
PDP-LX6090

PDP-LX6090

△

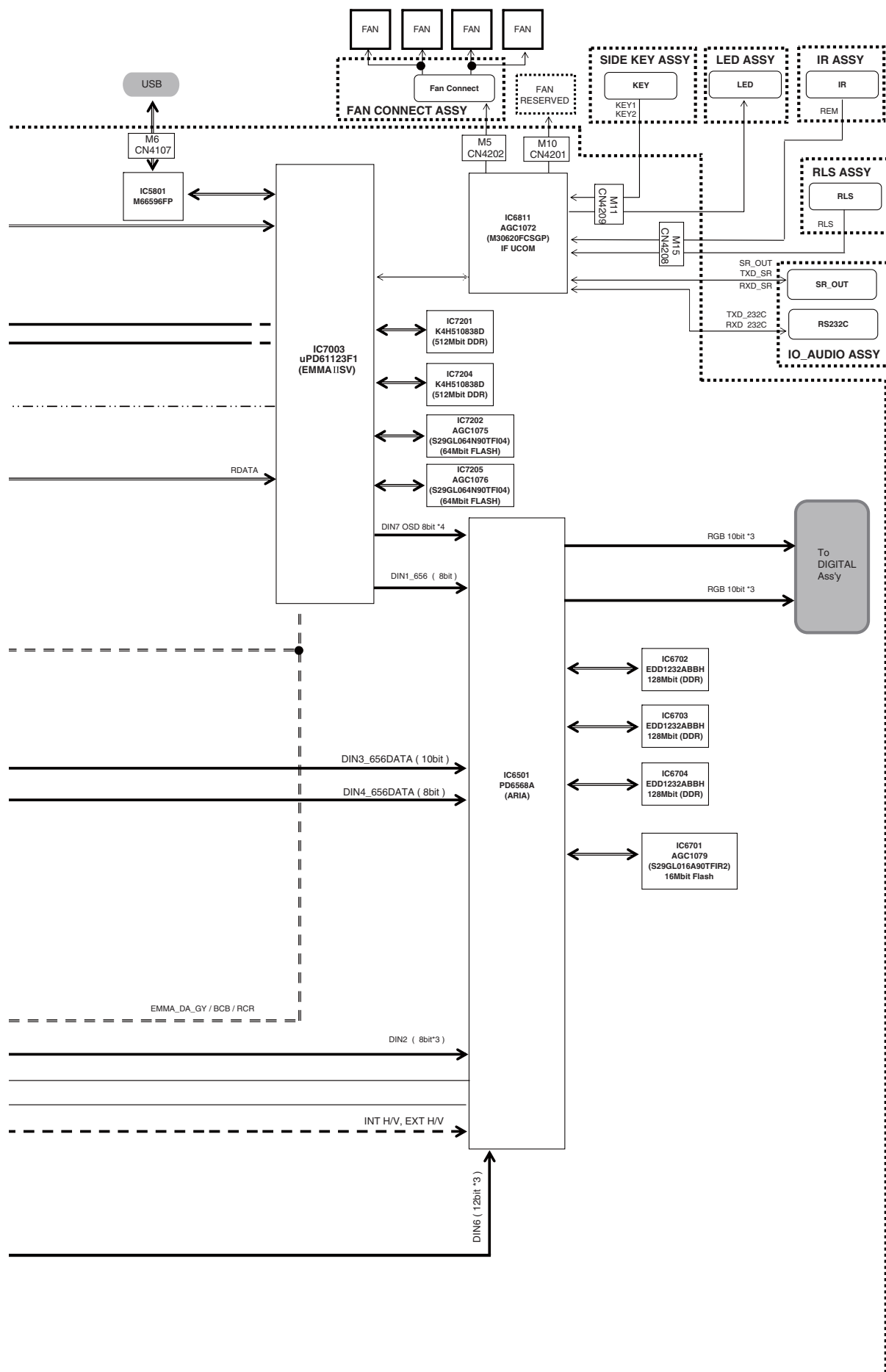




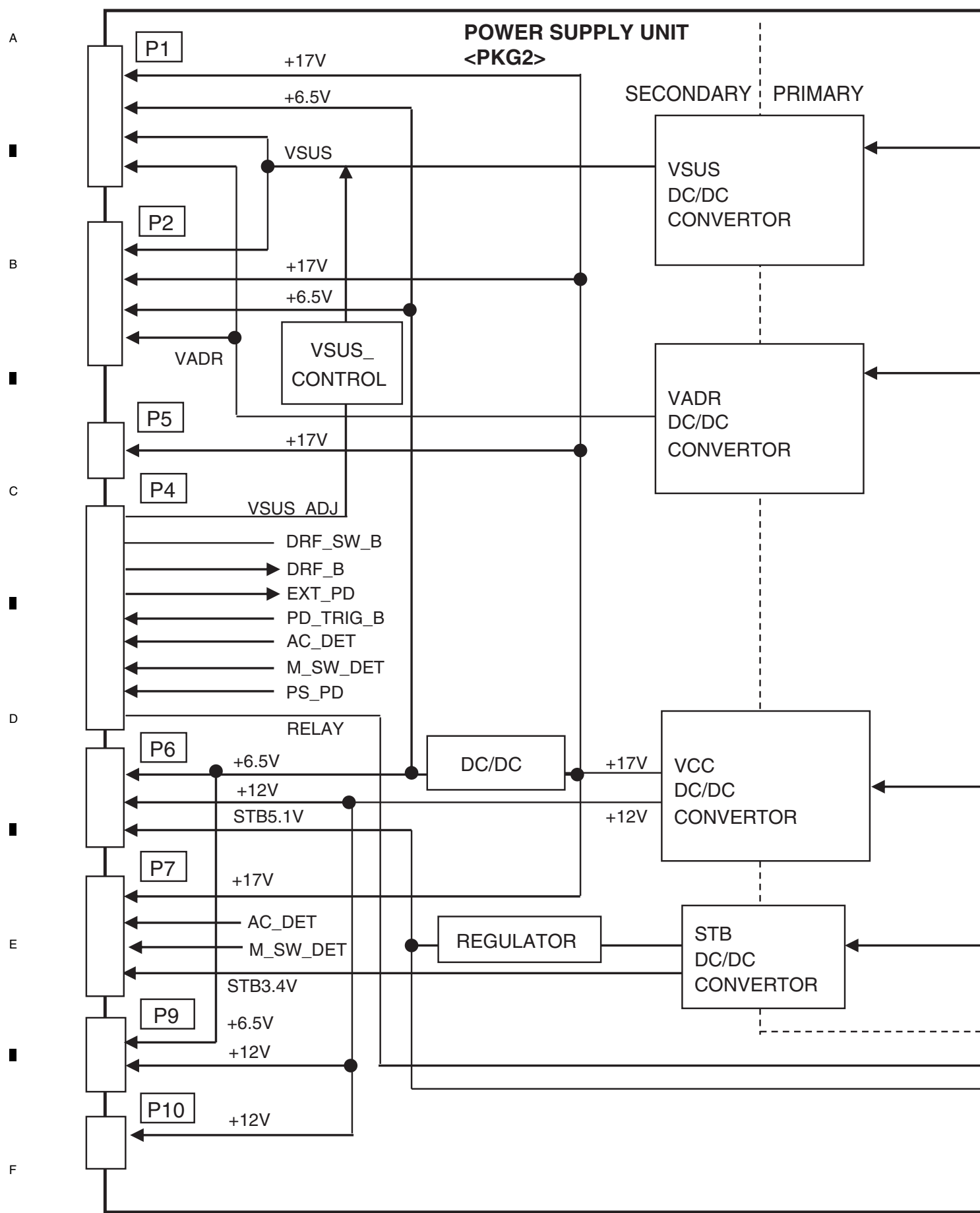
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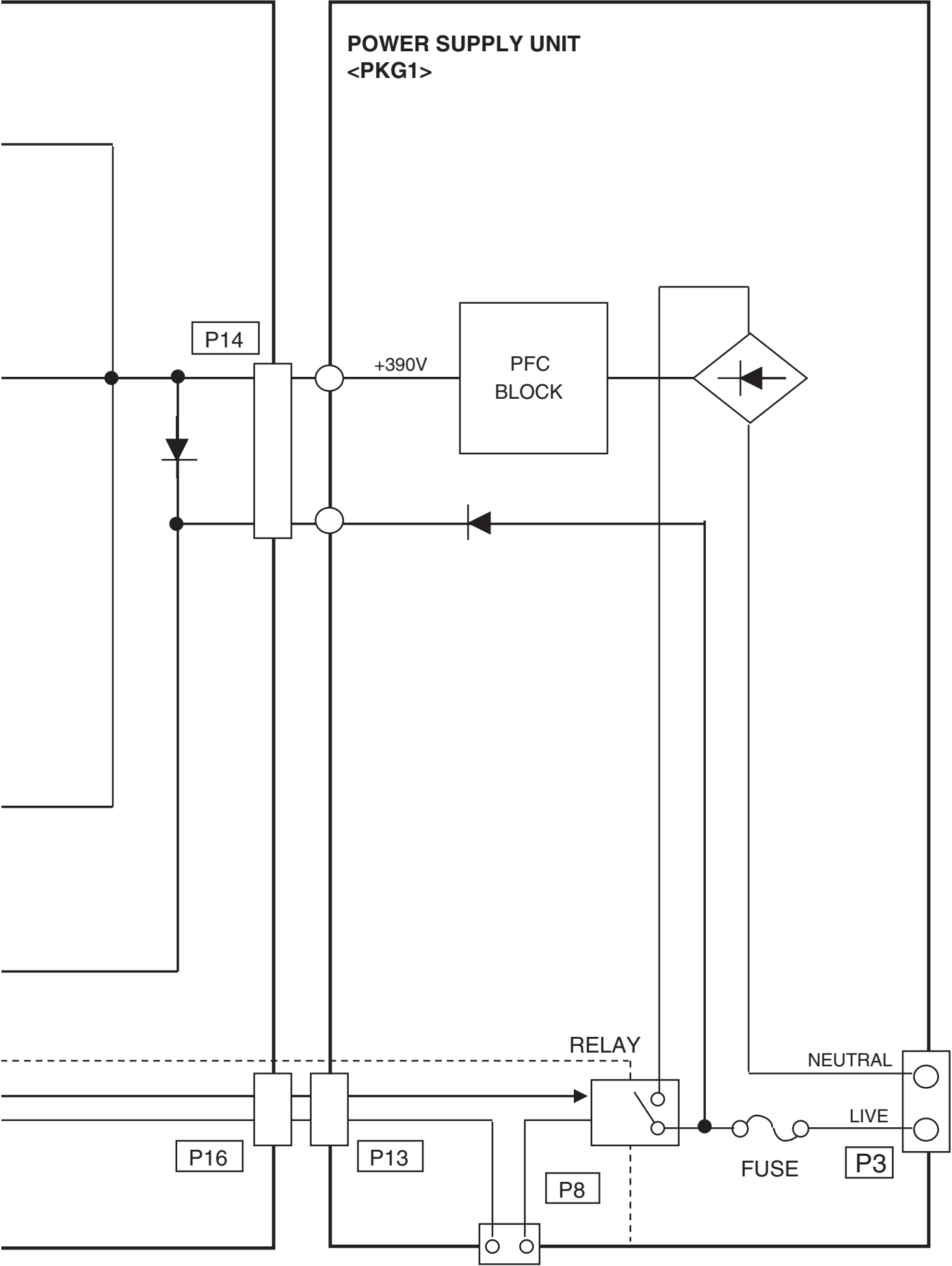
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4.5 POWER SUPPLY UNIT





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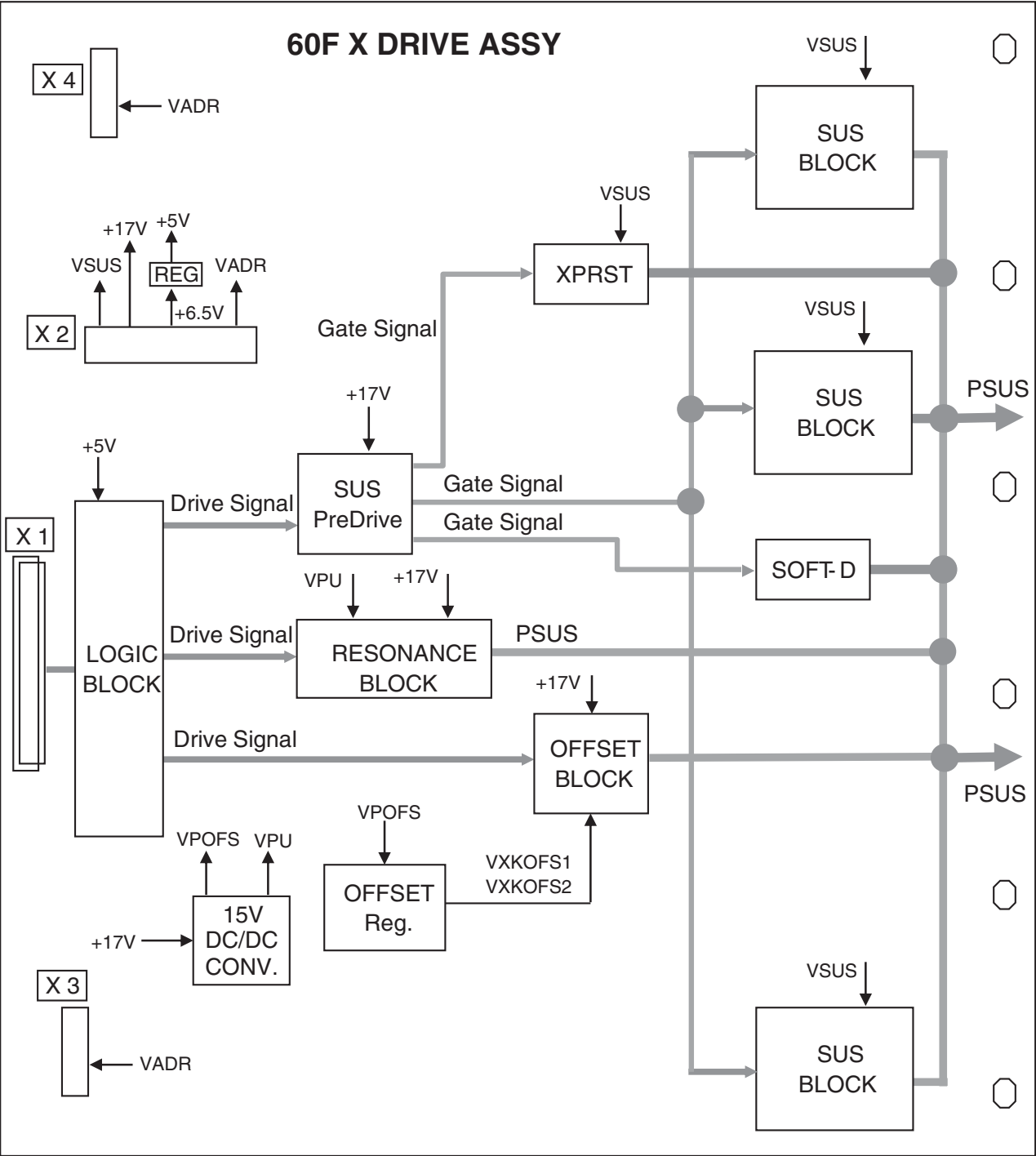
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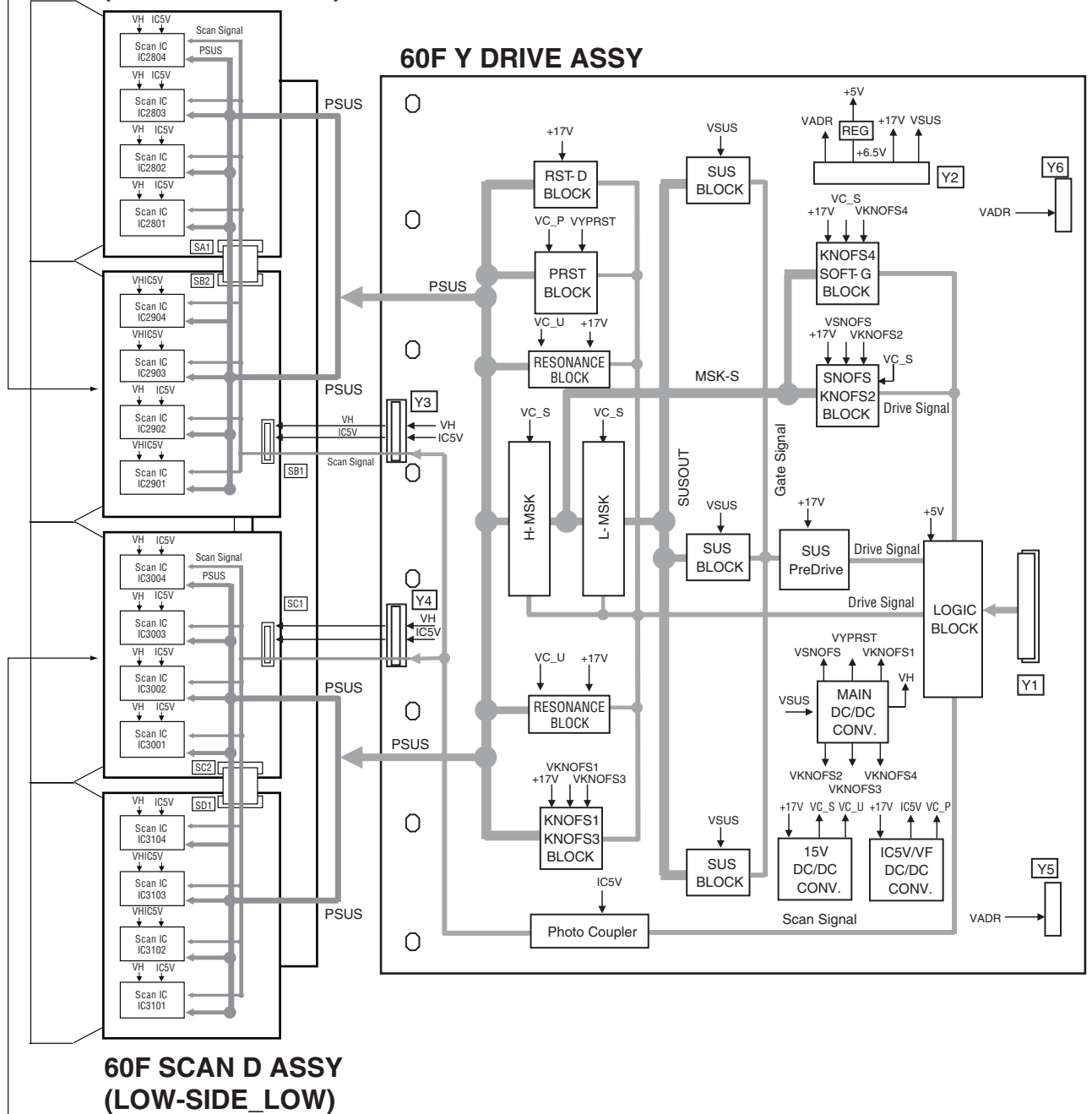
4.6 60F X DRIVE ASSY



4.7 60F Y DRIVE, 60F SCAN A, B, C and D ASSYS

60F SCAN B ASSY (HIGH-SIDE_LOW)

60F SCAN A ASSY (HIGH-SIDE_HIGH)



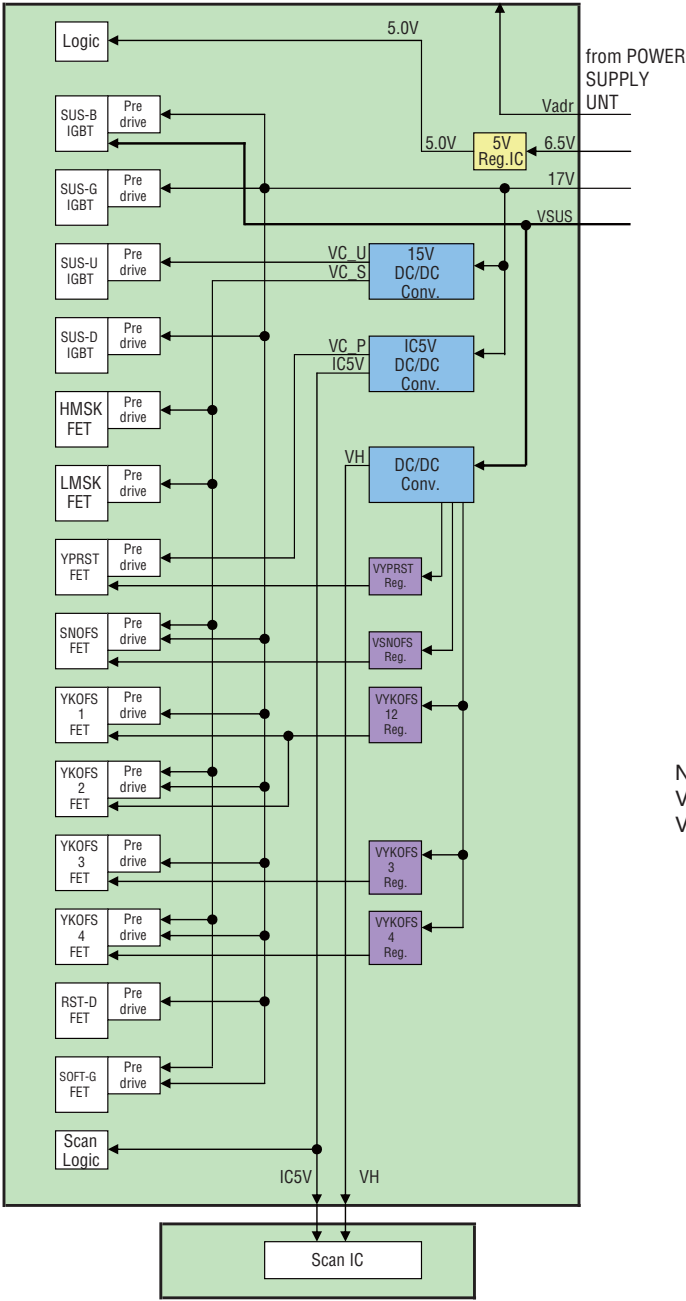
60F SCAN C ASSY (LOW-SIDE_HIGH)

60F SCAN D ASSY (LOW-SIDE_LOW)

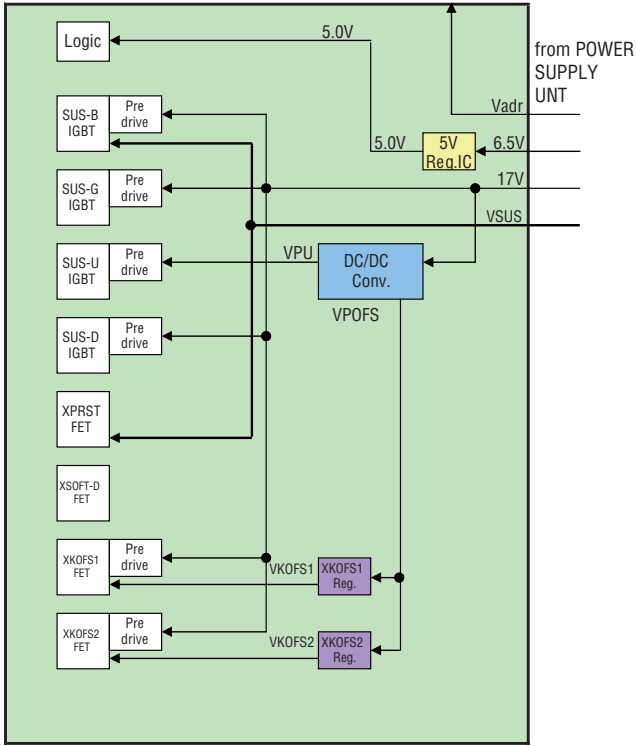
4.8 POWER SUPPLY BLOCK of 60F X, Y DRIVE and 60F SCAN A, B, C and D ASSYS

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60F Y DRIVE ASSY

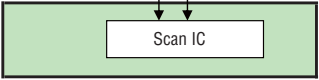


60F X DRIVE ASSY



Note:
VYPRST, VSNOFS, VYKOF12, VYKOF3, VYKOF4
VXKOF1 and VXKOF2 voltages are electrical volume controls.

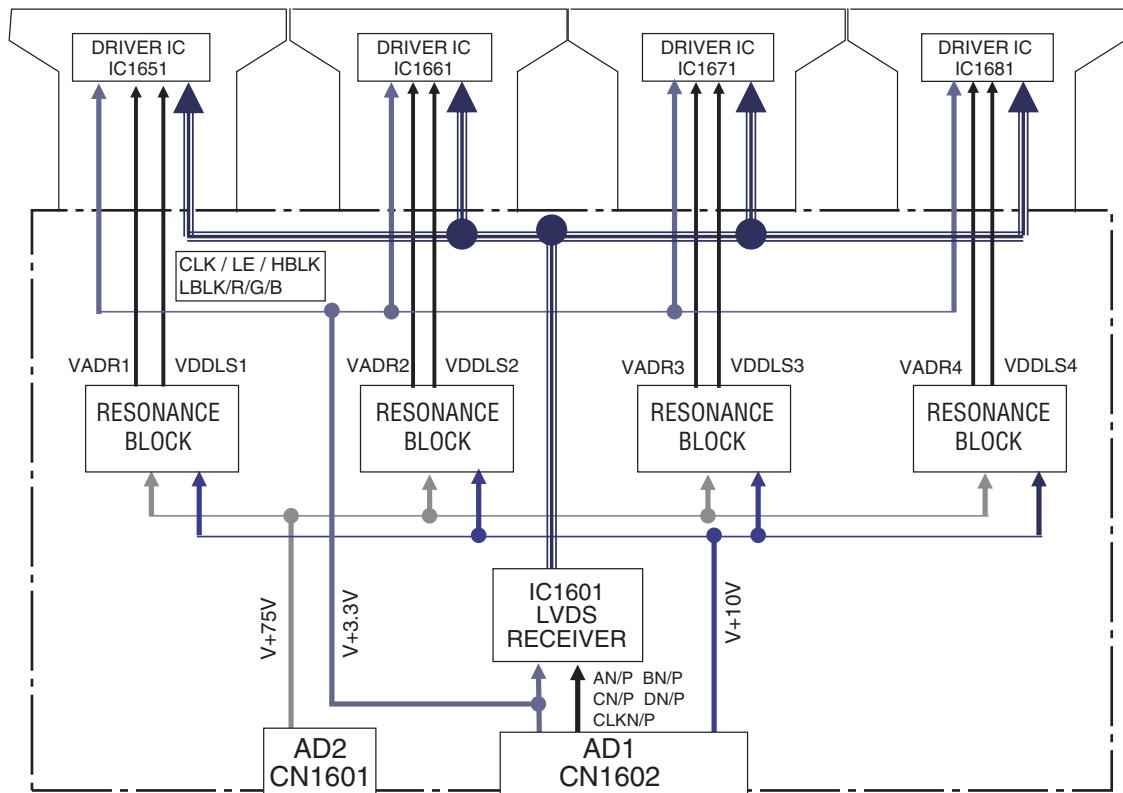
60F SCAN A, B, C and D ASSYS



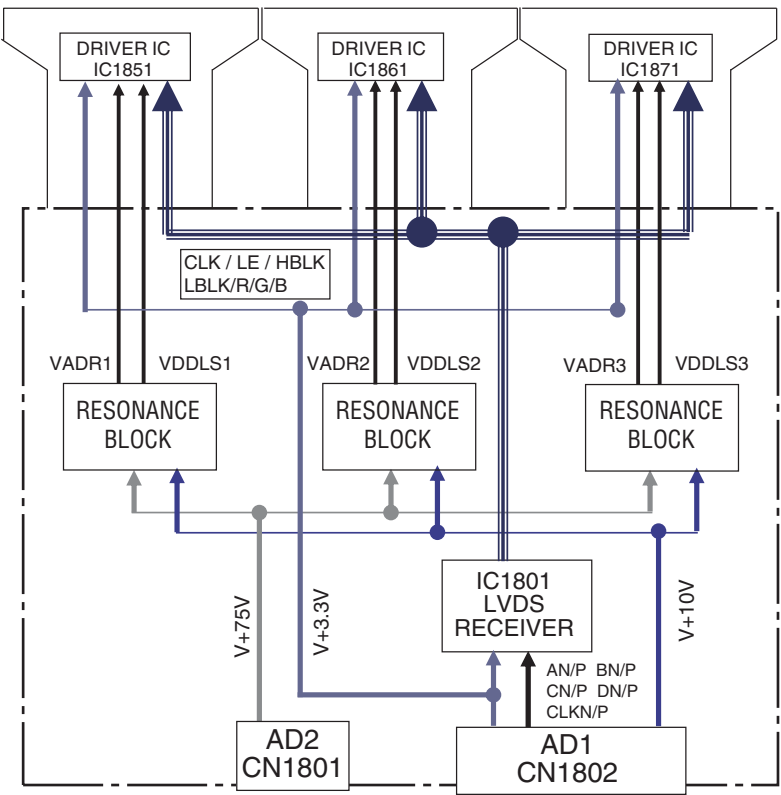
5 6 7 8

4.9 60F ADDRESS L and S ASSYS

60F ADDRESS L ASSY

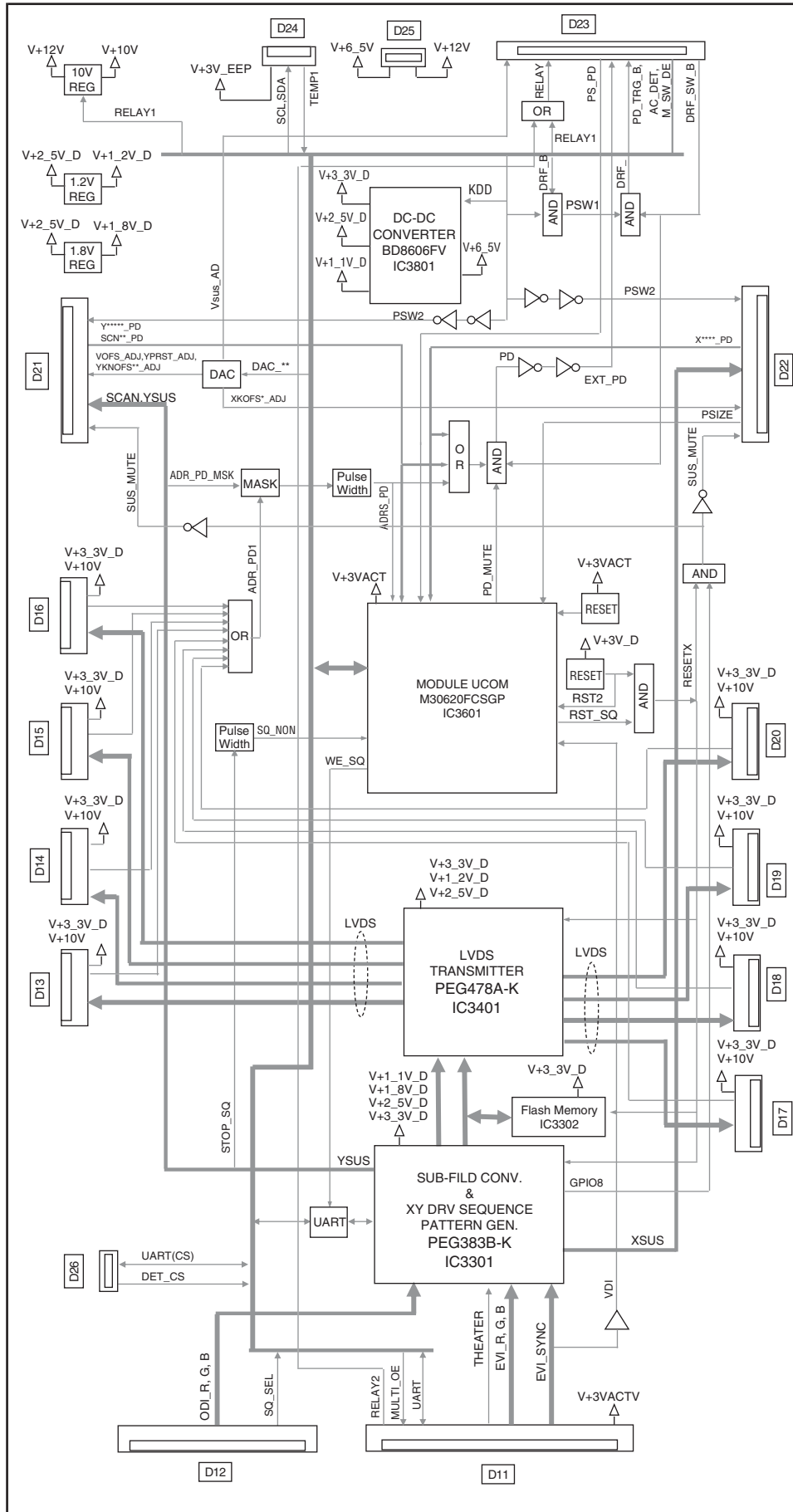


60F ADDRESS S ASSY



4.10 60F DIGITAL ASSY

60F DIGITAL ASSY



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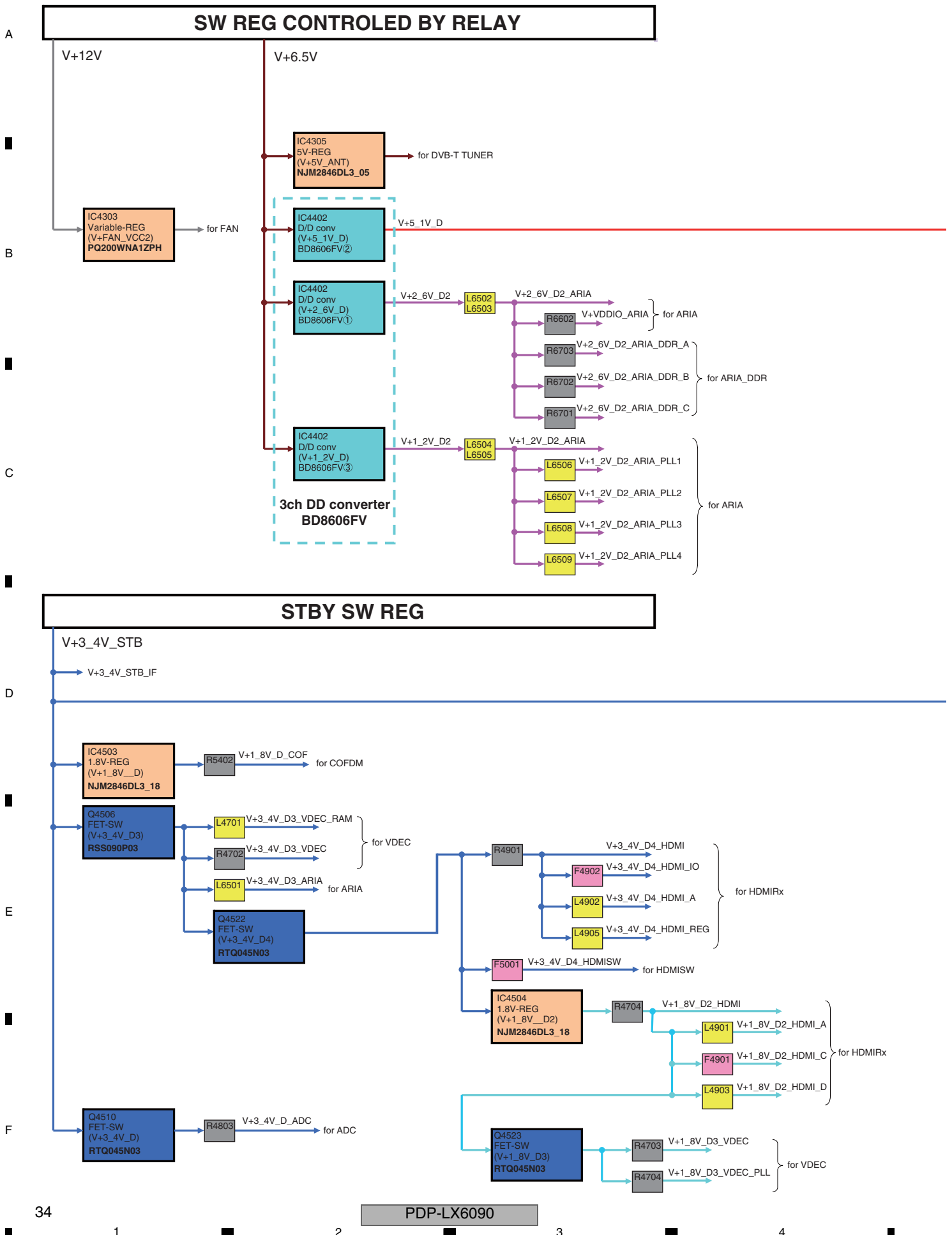
7

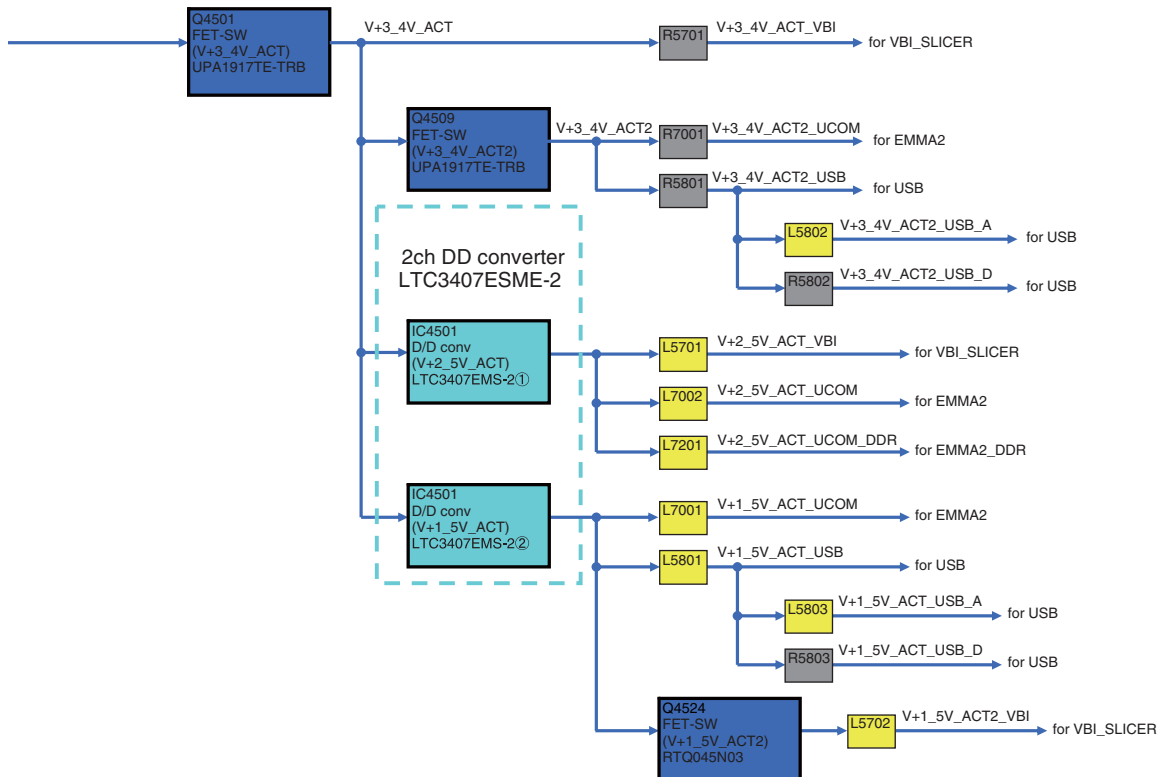
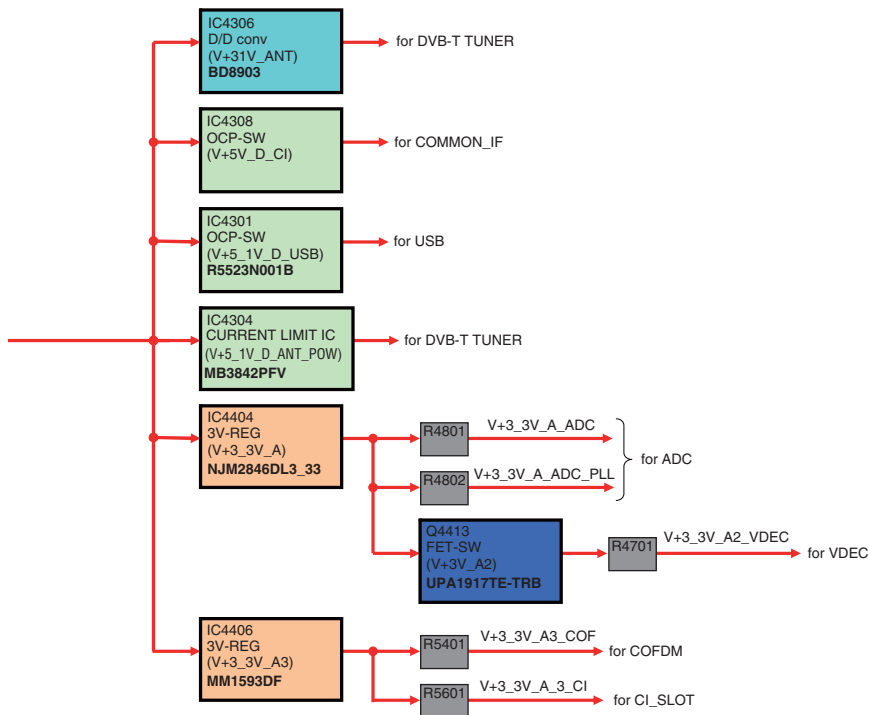
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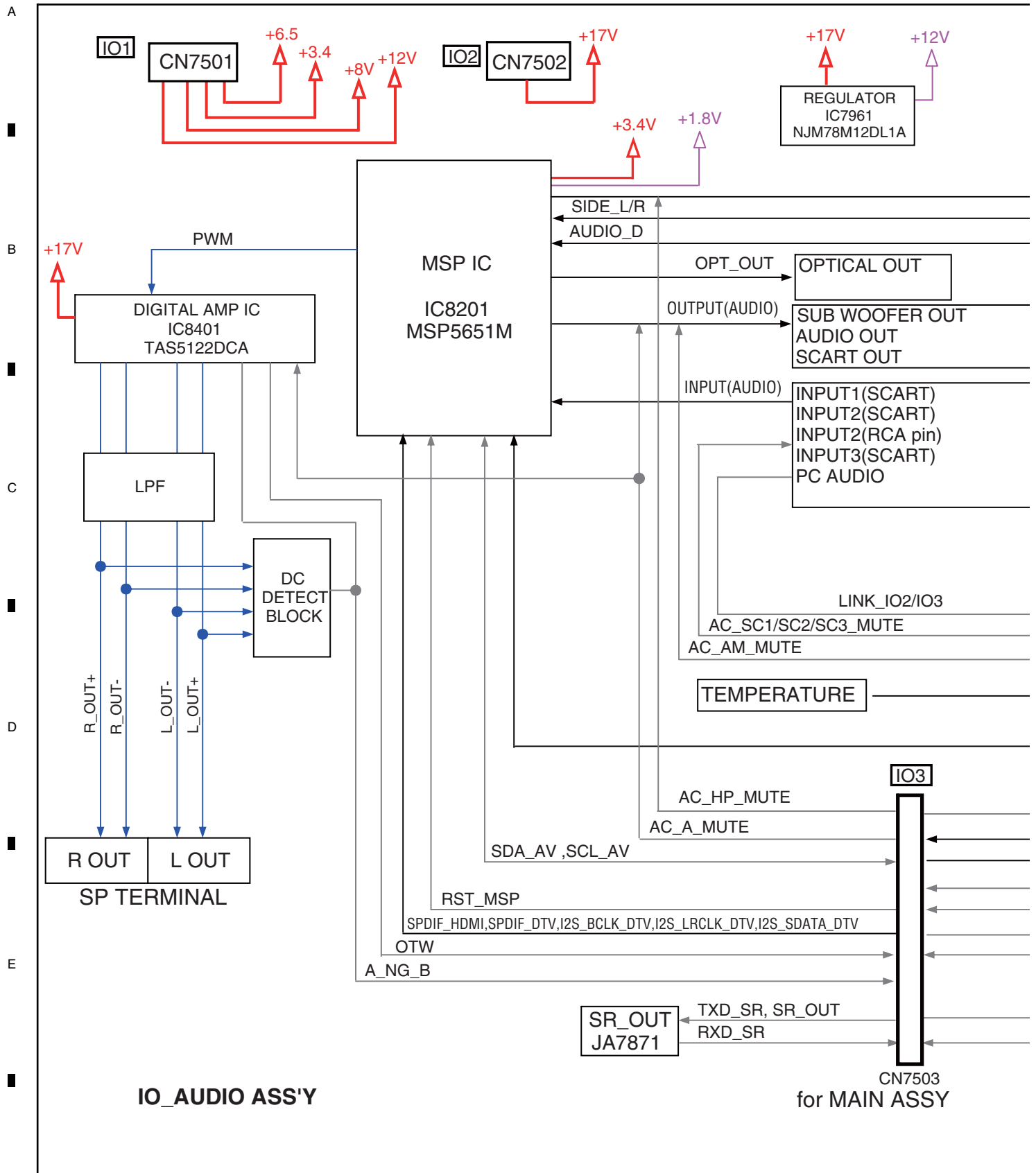
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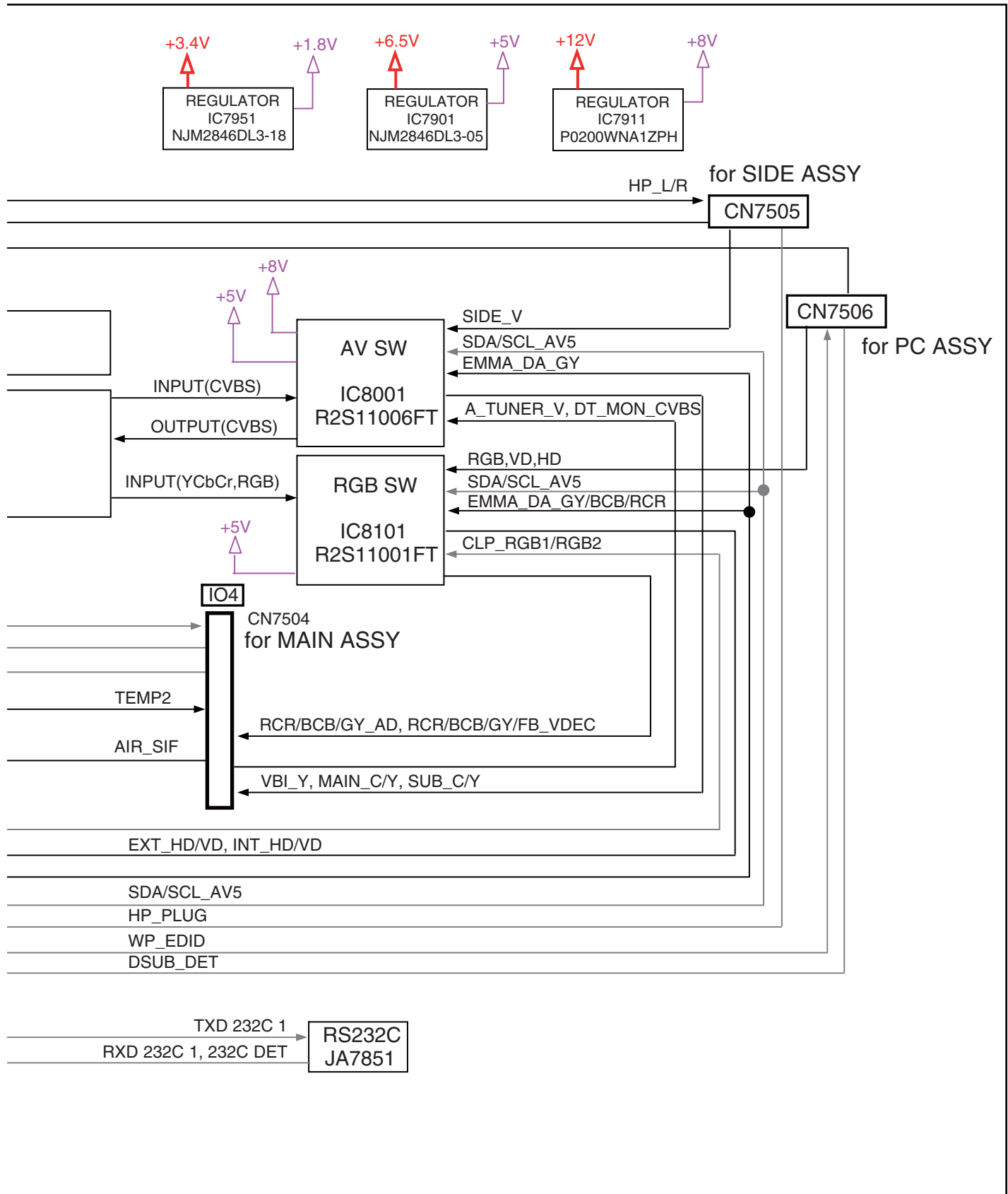
4.11 POWER SUPPLY BLOCK of MAIN ASSY



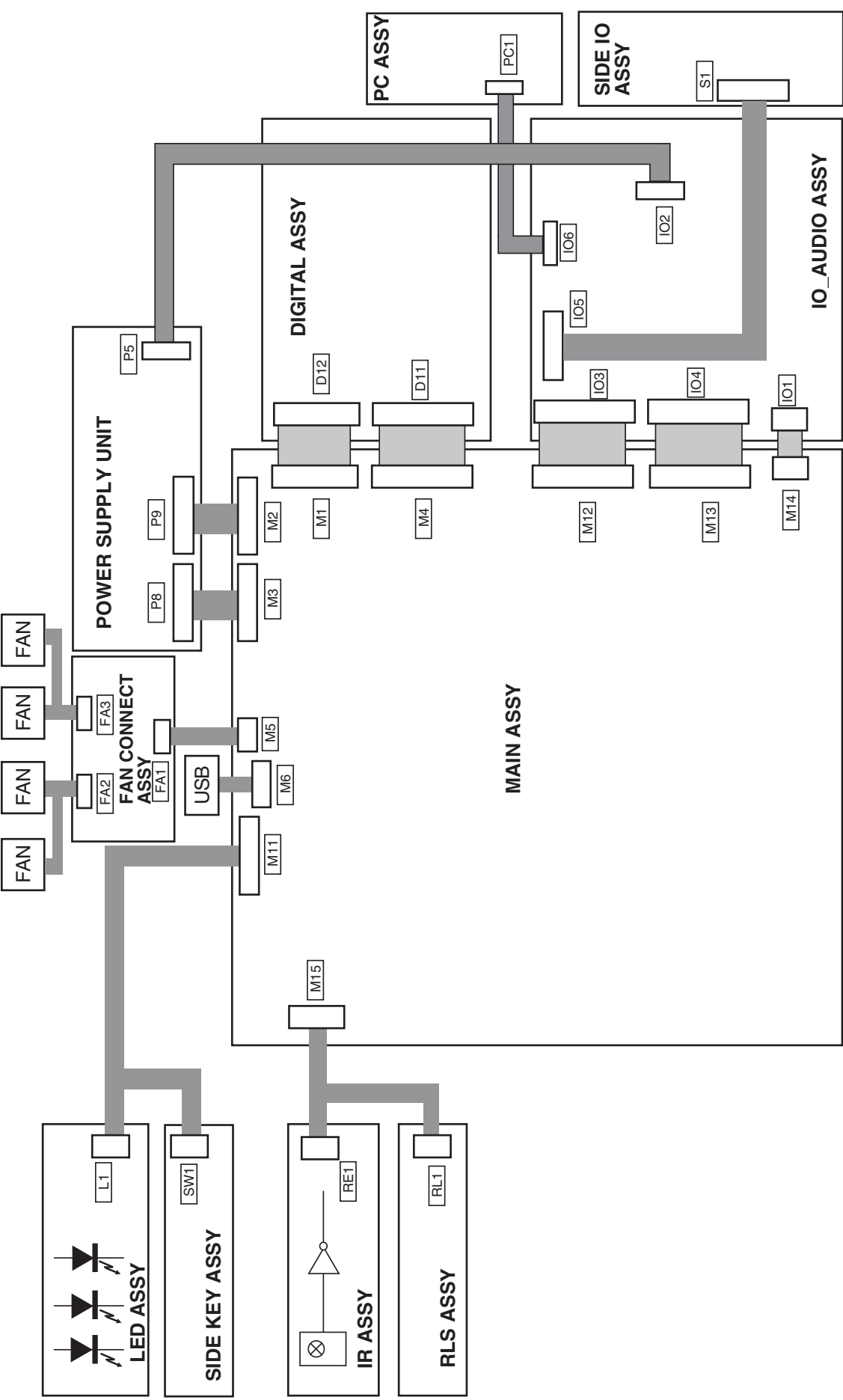


4.12 IO_AUDIO ASSY





4.13 LED and IR ASSYS



5. DIAGNOSIS

5.1 POWER SUPPLY OPERATION

[1] LED DISPLAY INFORMATION

LED Pattern

Status	LED	LED Pattern/Remarks					
AC OFF or Main Power Switch OFF	Blue Red Orange						
Standby Power Management	Blue Red Orange						
Power On	Blue Red Orange						
Power-Down	Blue Red Orange	Once 500ms	Twice	n times	2.5s	Once	*1
Shutdown	Blue Red Orange	500ms Once	Twice	n times	2.5s	Once	*2
Shutdown (Subcategory flashing)	Blue Red Orange	500ms Once 500ms	Twice	n times	2.5s	Once	*2 *3
No digital adjustment data copied for backup	Blue Red Orange						
Updating the PC	Blue Red Orange						
During factory operation	Blue Red Orange						
During DTB communication inhibit	Blue Red Orange						
During USB update	Blue Red Orange						
Updating of USB is finished normally.	Blue Red Orange						
Updating of USB is abnormally finished.	Blue Red Orange						
Sleep timer	Blue Red Orange						
During reservation video recording (Unit: Standby)	Blue Red Orange						
During reservation video recording (Unit: ON)	Blue Red Orange						

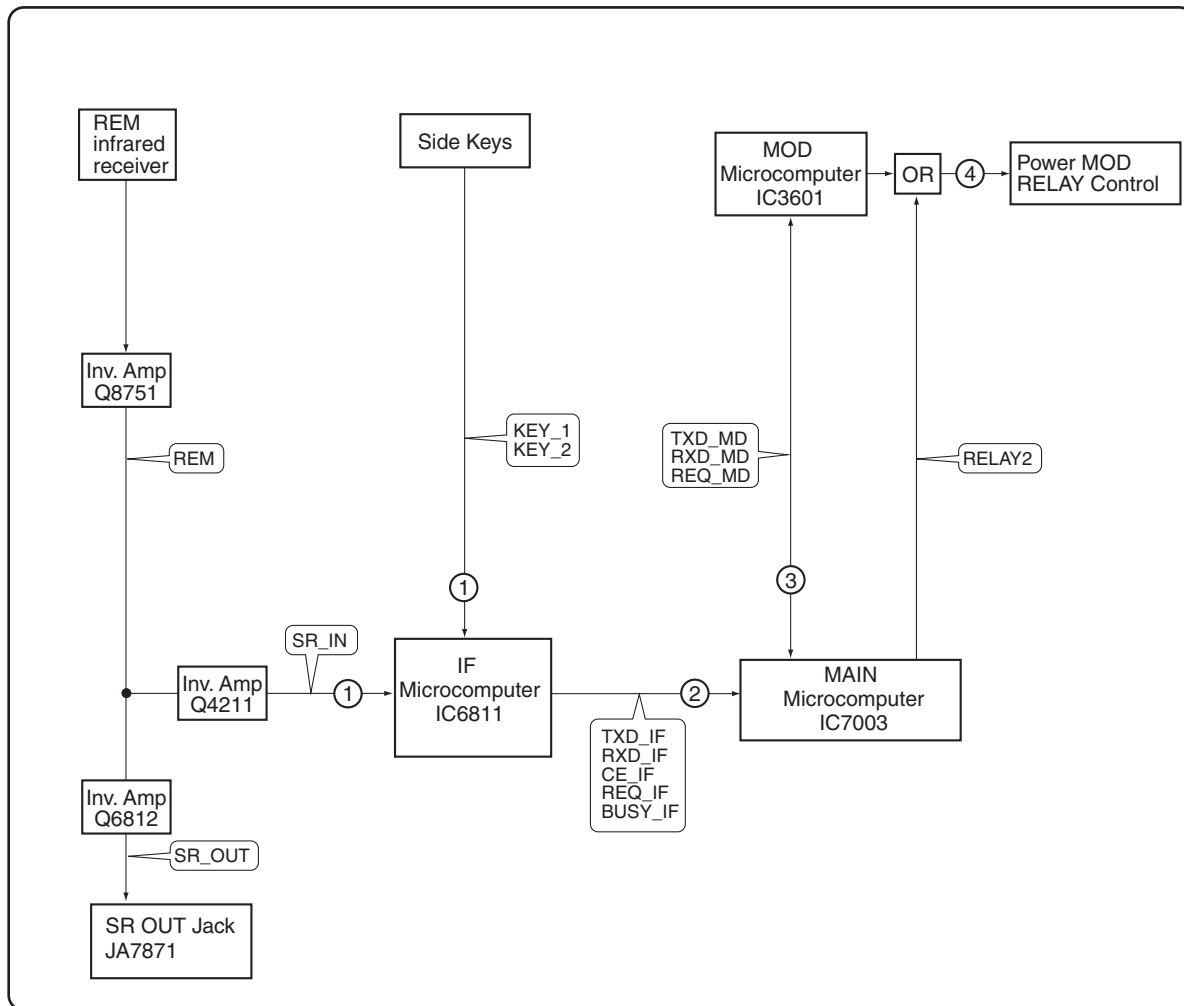
*1: Notify upon the power-down content by Red LED flashing number of times.
 *2: Notify upon the shutdown content by Blue LED flashing number of times
 *3: Notify upon the subcategory number by Orange LED flashing number of times.
 *4: PDP-LX6090H only
 *5: Notify upon the abnormal state by Orange LED flashing number of times.

POWER ON

STANDBY

TIMER

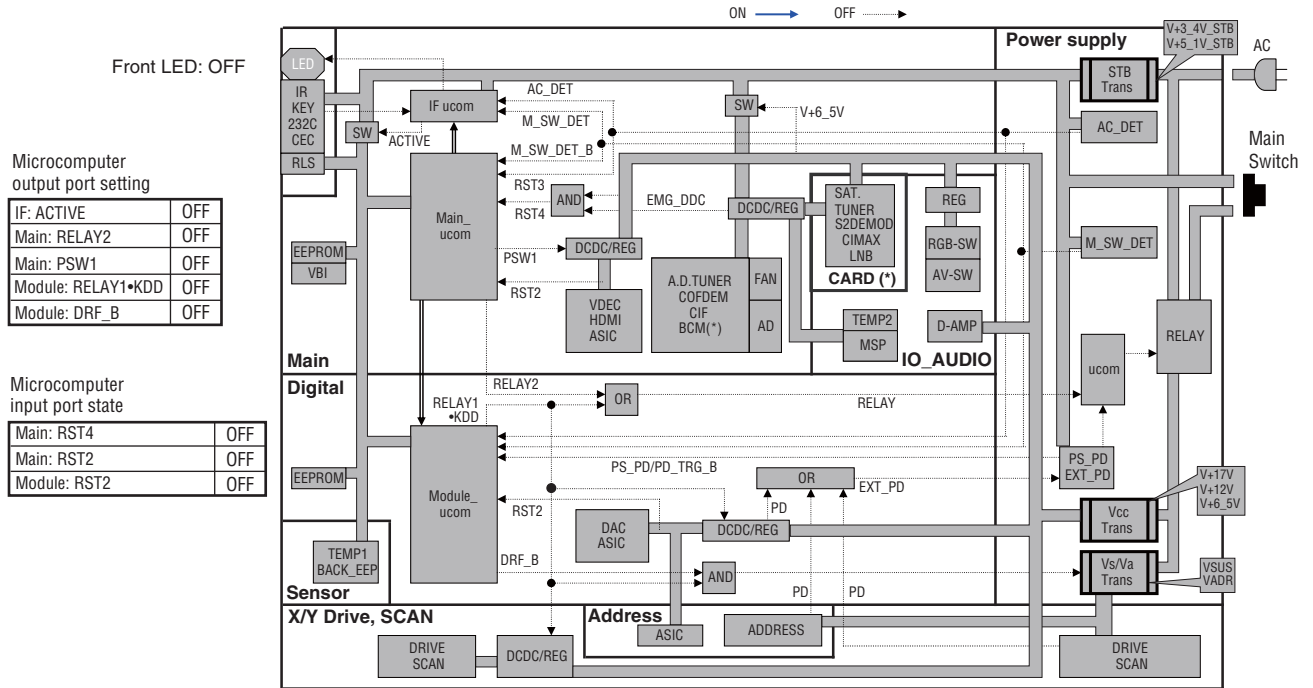
[2] POWER ON SEQUENCE



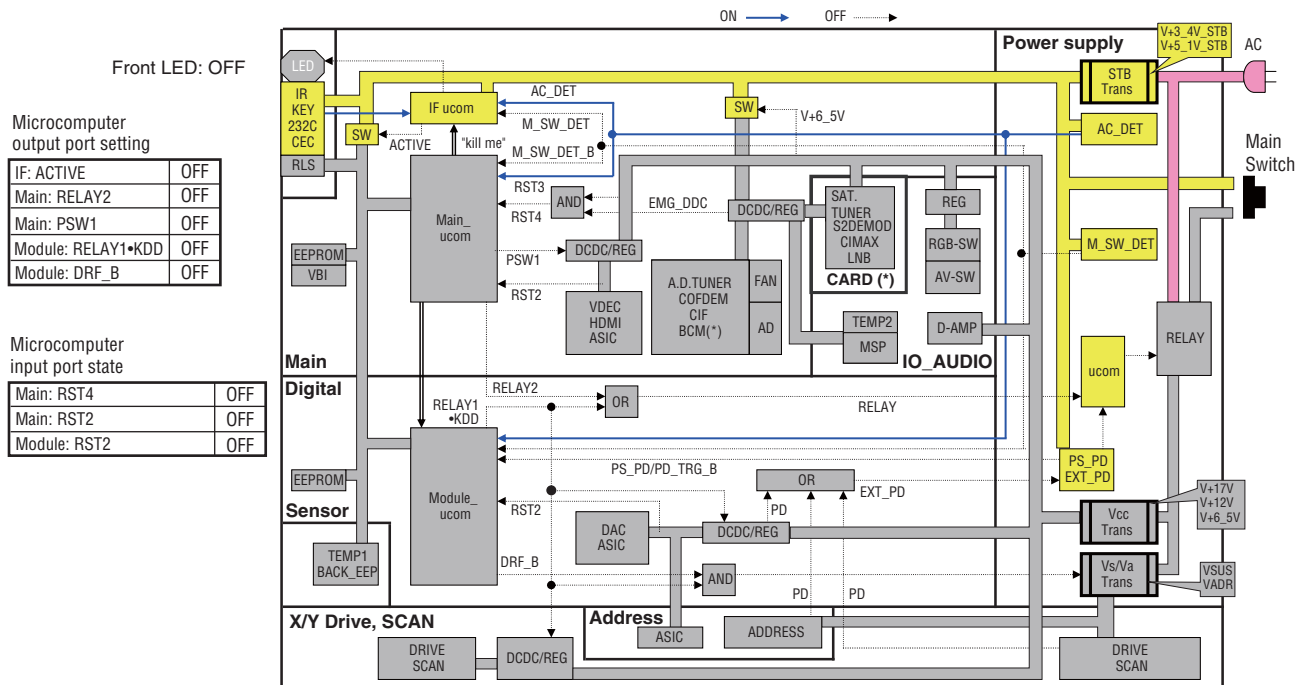
- ① : The remote control (or KEY) signal is input to the IF microcomputer.
- ② : The IF microcomputer sends the operation data of the remote control unit (or KEY) to the main microcomputer.
- ③ : The main microcomputer issues a startup command (PON) to the MOD microcomputer.
- ④ : The relay is controlled with logical OR interpretation of control signals by the main microcomputer and module (MOD) microcomputer.

[3] DETAILS OF POWER ON SEQUENCE

AC-OFF Main Power OFF, Passive Standby

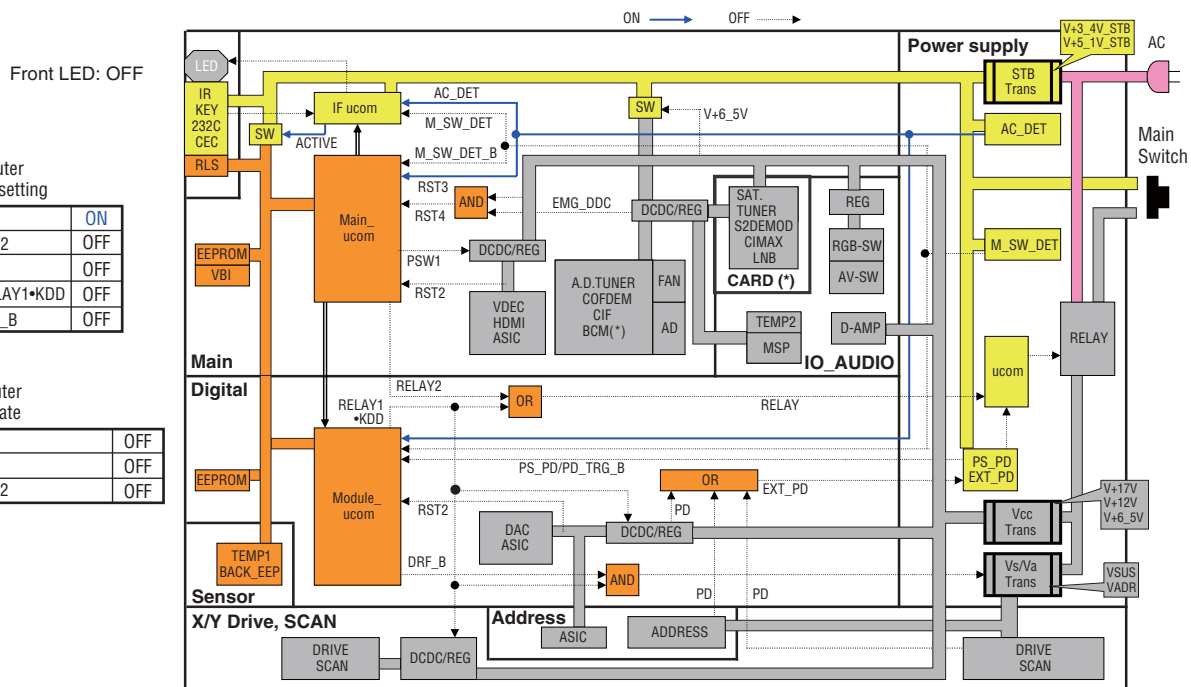


AC-ON Main Power OFF, Passive Standby



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AC-ON Main Power OFF, Active Standby

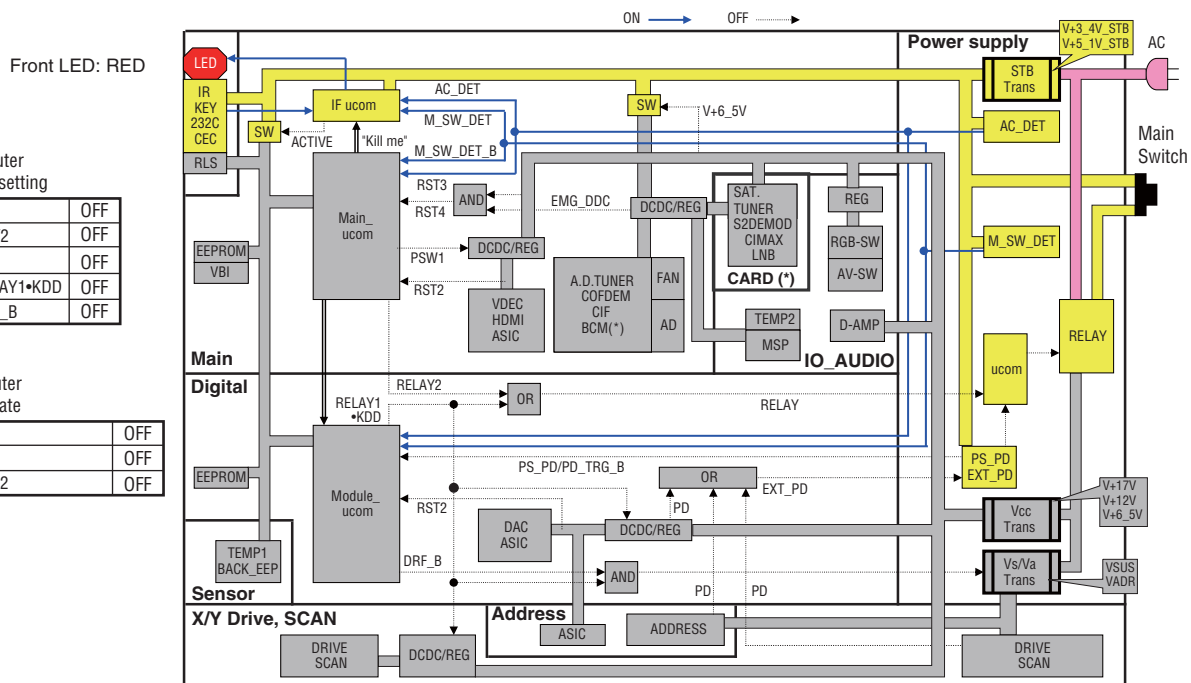


Periphery of the IF, Main and Module microcomputers are operated.

The user operation is invalid due to Main Switch off.

(*): PDP-LX6090H only

AC-ON Main Power ON, Passive Standby

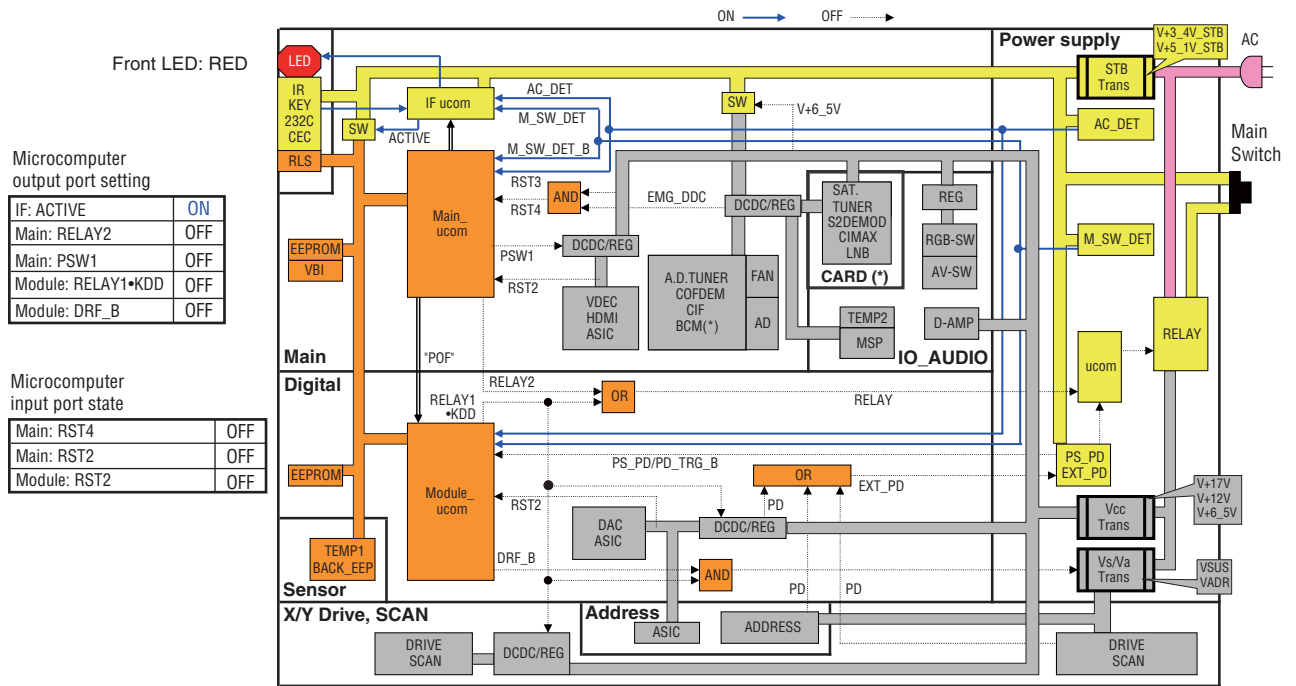


Only the periphery of the IF microcomputer is electrified.

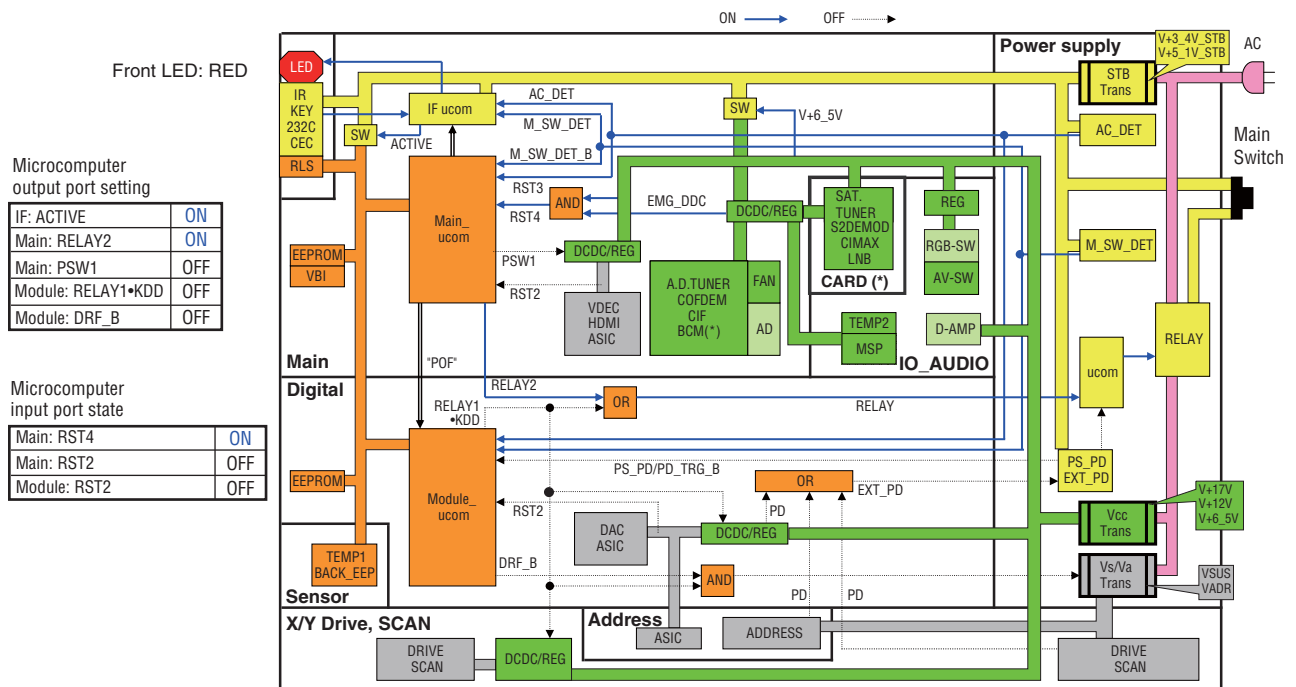
The user operation is valid.

(*): PDP-LX6090H only

AC-ON Main Power ON, Active Standby



AC-ON Main Power ON, Function Standby

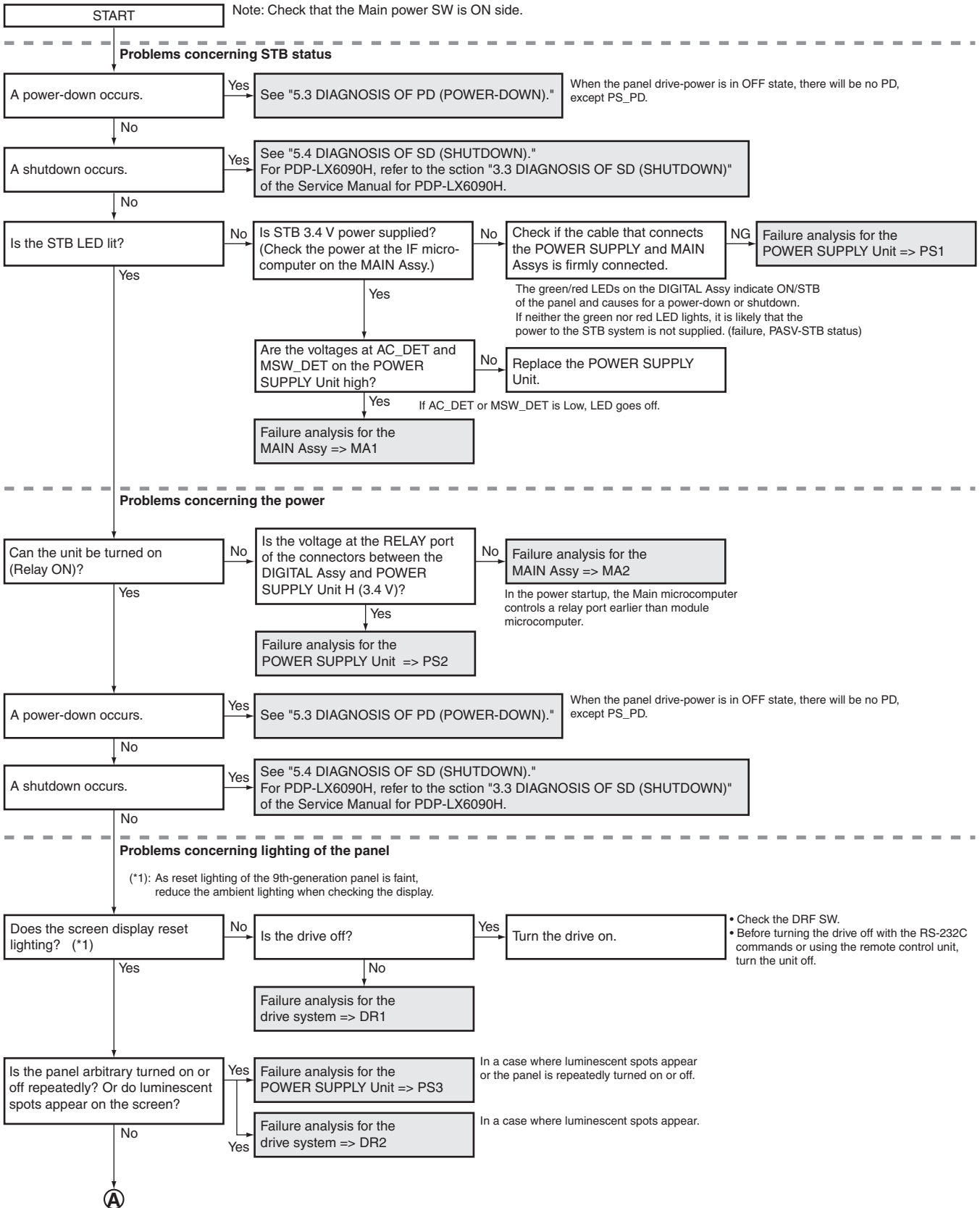


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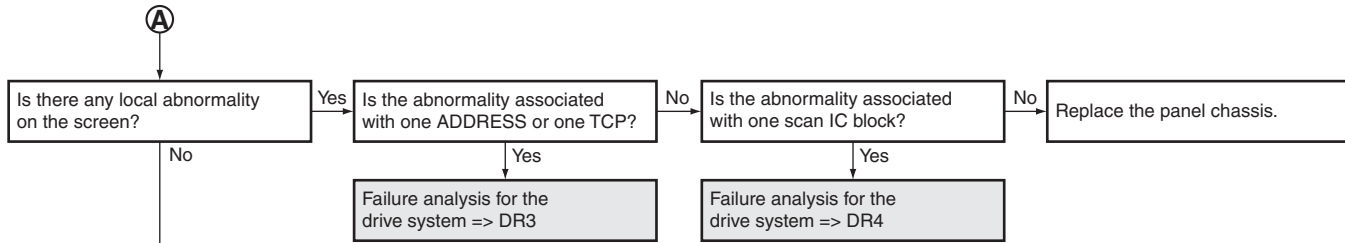
5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS

[1] WHOLE UNIT

Flowchart of Failure Analysis for The Whole Unit



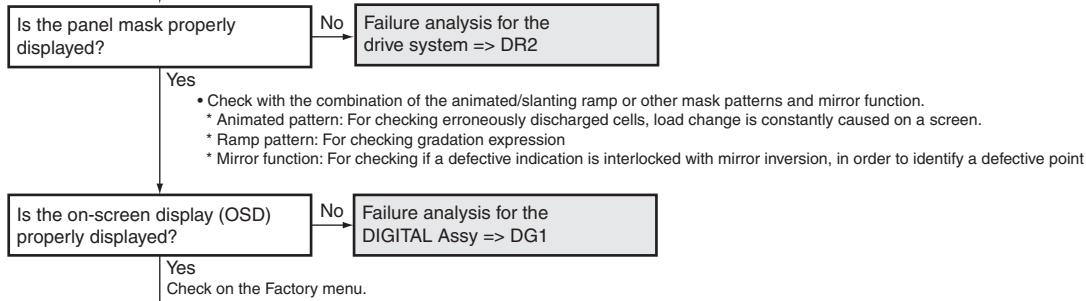
A



In the subsequent diagnostic steps, it is most likely that the multi base section is in failure.

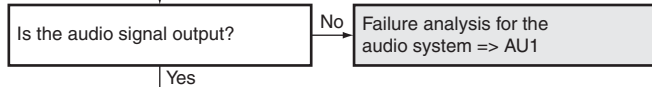
B

Problems concerning video display



C

Problems concerning the audio output



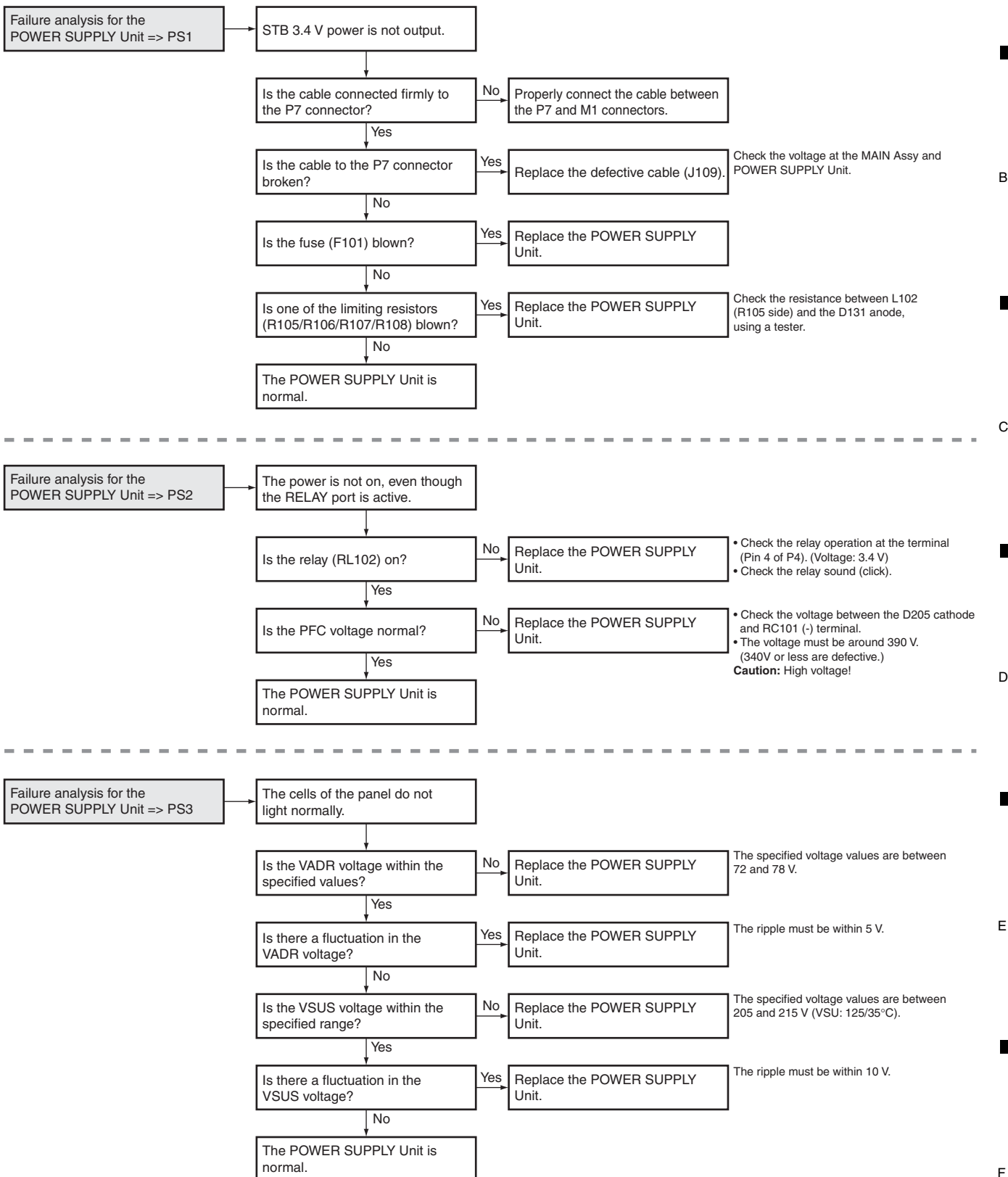
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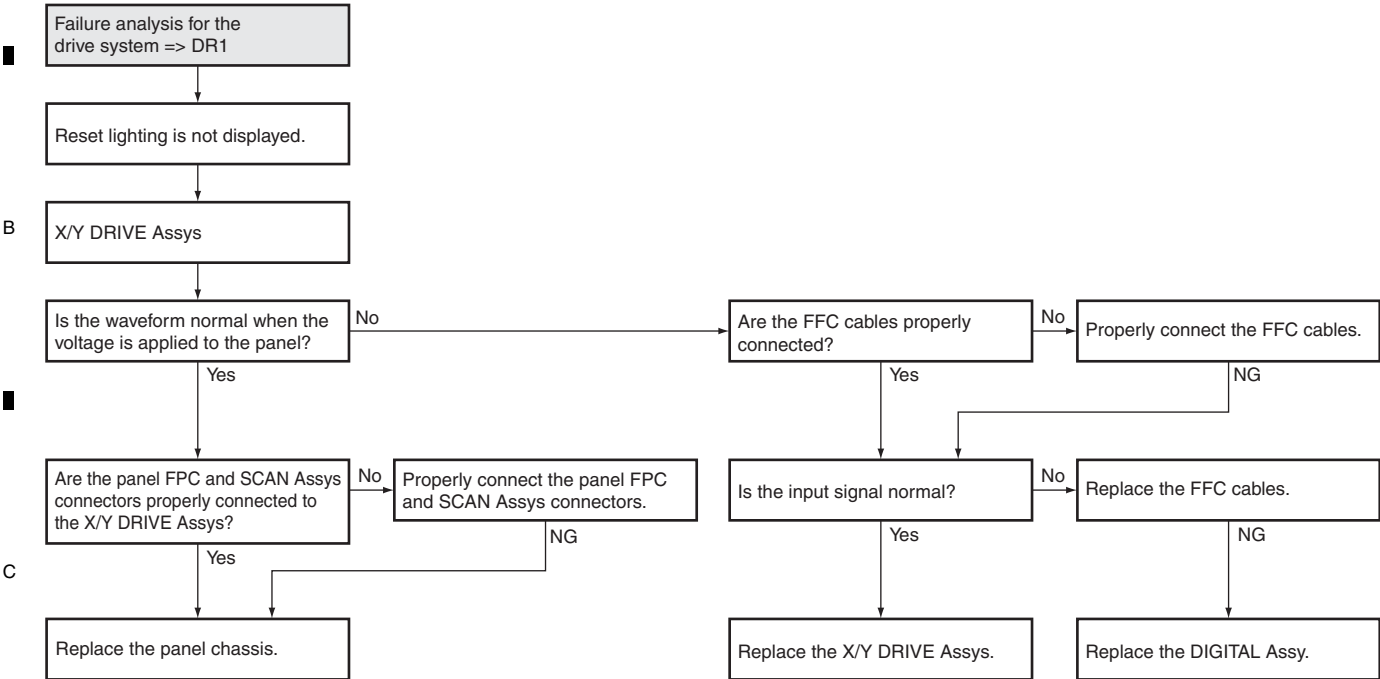
[2] POWER SUPPLY UNIT

Flowchart of Failure Analysis for The POWER SUPPLY Unit



A [3] DRIVE ASSY

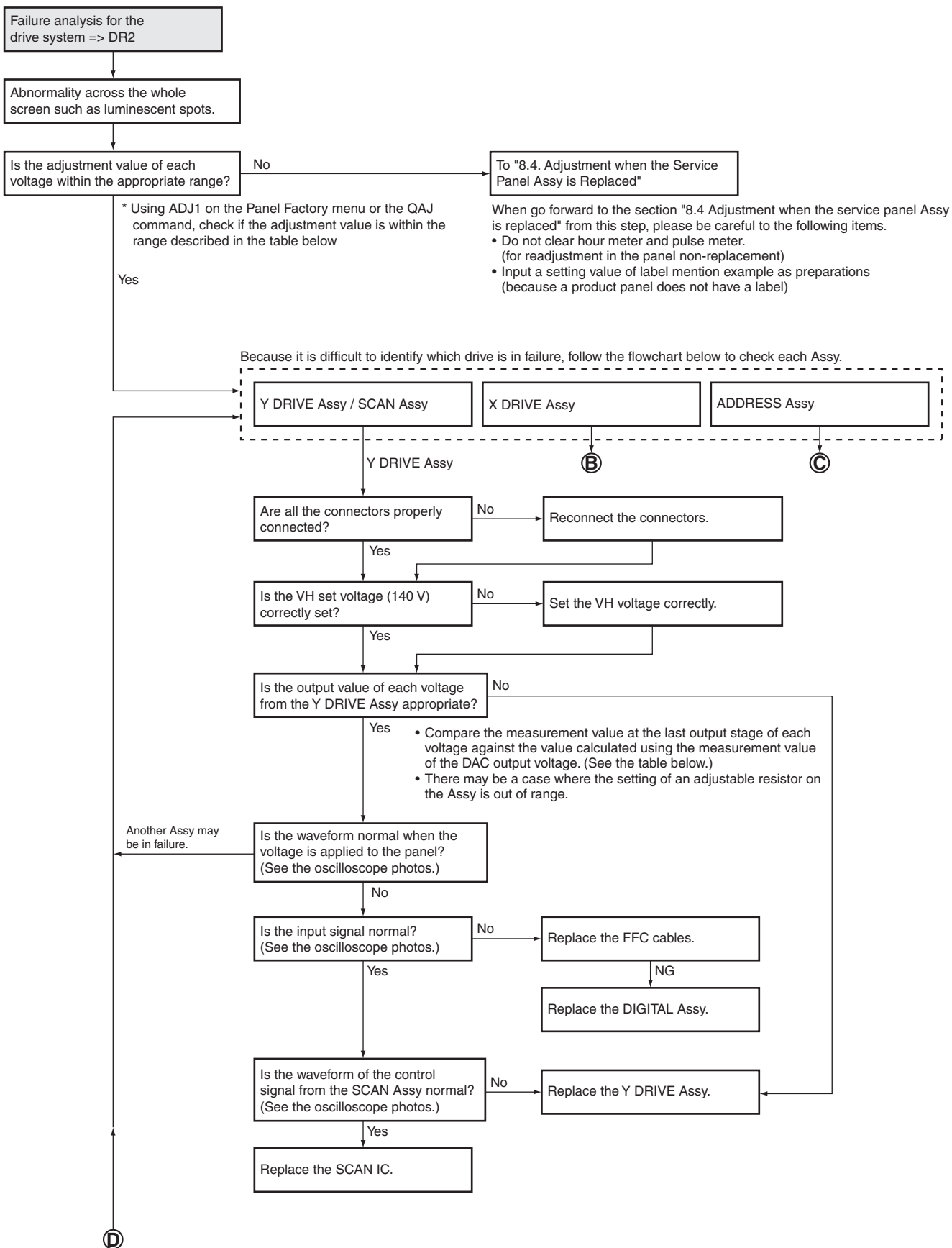
Flowchart of Failure Analysis for The Drive Assy



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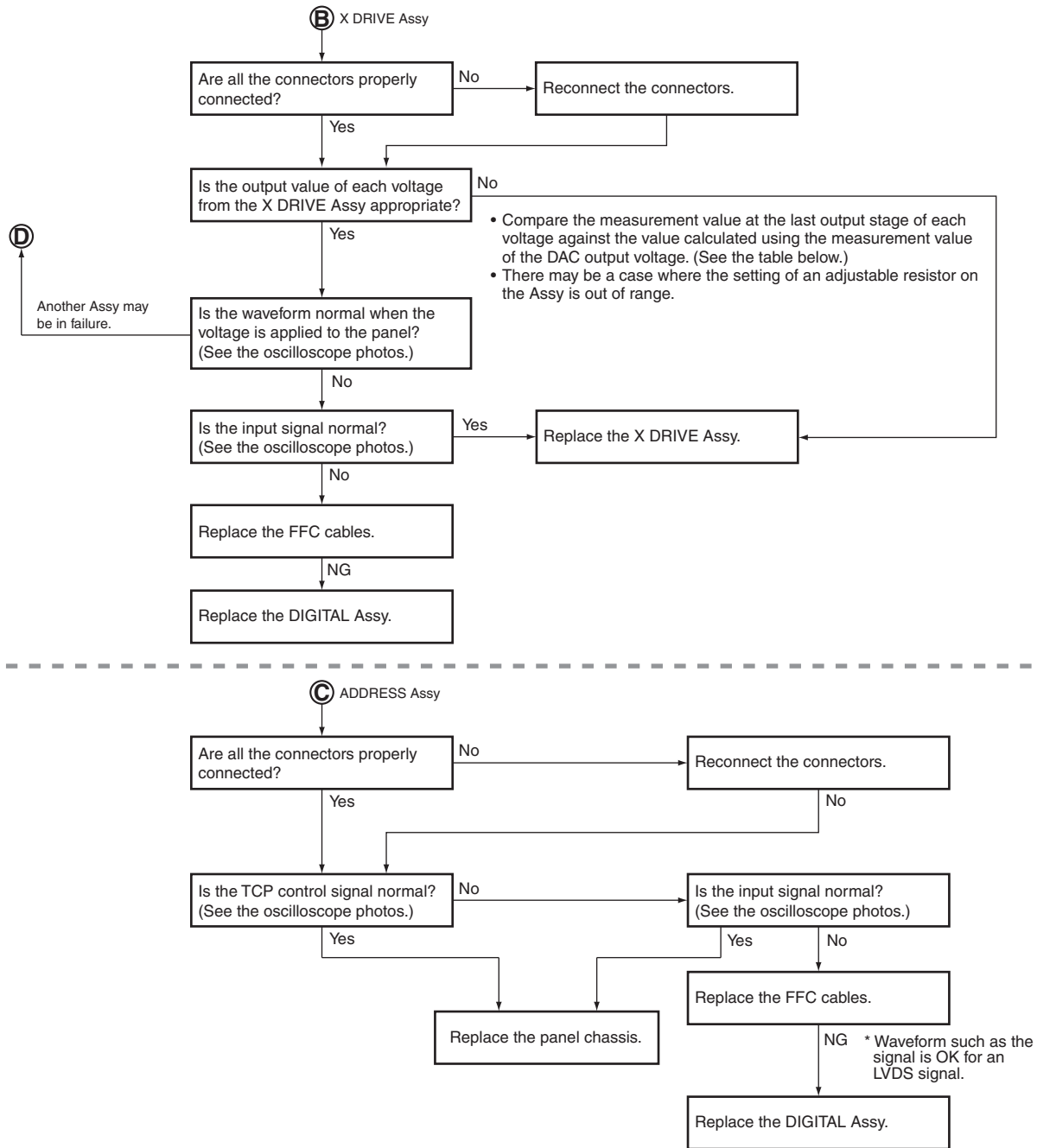
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Assy Name	Voltage to be Checked (V)	Adjustable Range		Measurement Point		Computation Formula for Voltage (Absolute Value)	
		60-inch	50-inch	Output at the Last Stage	DAC Output (*2)	Computation Using DAC Output Voltage (V)	Computation Using Adjustment Value (*4)
Y DRIVE Assy	VSNOFS	040 to 085	101 to 157	CN2404 (*1)	Lower side of R2723 (*3)	$VOFS_ADJ \times 13.91 + 55.54$	$VOF \text{ value} \times 0.18 + 9.6$
	VYRST	001 to 056	001 to 074	CN2401 (*1)	Upper side of R2621 (*3)	$VYPRST_ADJ \times 62.495 + 75.2$	$VRP \text{ value} \times 0.81 + 74.4$
	VKNOFS1_2	054 to 107	121 to 164	CN2405 (*1)	Left side of R2754 (*3)	$YVKNOFS1_ADJ \times 36.85 + 159.3$	$(V1F \text{ value} + VYF \text{ value} - 128) \times 0.48 + 158.8$
	VKNOFS3	065 to 117	107 to 149	CN2403 (*1)	Right side of R2757 (*3)	$YVKNOFS3_ADJ \times 36.85 + 159.3$	$(V3F \text{ value} + VYF \text{ value} - 128) \times 0.48 + 158.8$
	VKNOFS4	111 to 164	151 to 193	CN2406 (*1)	Right side of R2755 (*3)	$YVKNOFS4_ADJ \times 36.85 + 159.3$	$(V4F \text{ value} + VYF \text{ value} - 128) \times 0.48 + 158.8$
X DRIVE Assy	XKOF1	105	085	CN1302 (*1)	K1402 (*1)	$XKNOFS1_ADJ \times 27.3 + 30$	$VX1 \text{ value} \times 0.35 + 29.7$
	XKOF2	063	047	CN1301 (*1)	K1401 (*1)	$XKNOFS2_ADJ \times 25.0 + 69.8$	$VX2 \text{ value} \times 0.32 + 69.5$

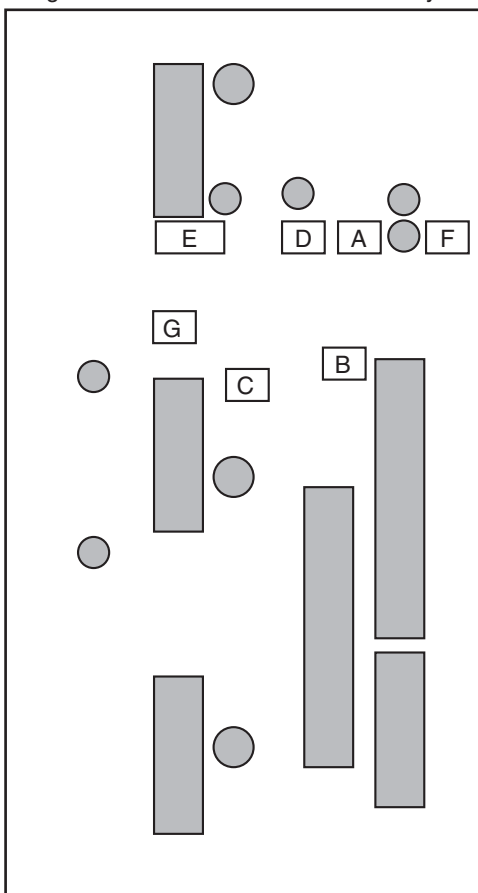
(*1): These parts have not been mounted.

(*2): It is recommended to measure the DAC output voltage with the drive off.

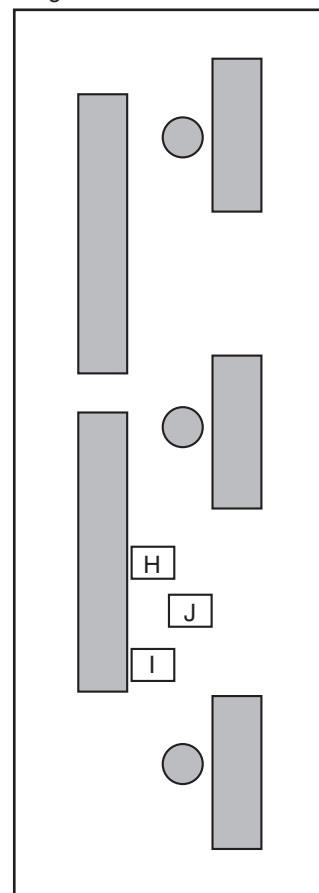
(*3): View when the Assy is mounted on the unit and viewed from the rear.

(*4): The value calculated using an adjustment value may be different from the value measured at the last output stage, because various corrections such as temperature correction are not taken into consideration.

Diagrammatic view of the Y DRIVE Assy



Diagrammatic view of the X DRIVE Assy



A	R2754,R2755,R2757
B	R2723
C	R2621
D	CN2405
E	CN2403,CN2406
F	CN2404
G	CN2401
H	K1401
I	K1402
J	CN1301,CN1302

A

Failure analysis for the drive system => DR3

Diagnose the ADDRESS Assy.

The abnormality is associated with one ADDRESS or one TCP.

Is the TCP control signal normal?

No

Are the FFC cables properly connected?

No

Properly connect the FFC cables.

Yes

Yes

NG

B

Replace the panel chassis.

NG

Replace the DIGITAL Assy.

If the FFC cable that connects the DIGITAL and ADDRESS Assys is in failure, the abnormality is associated with one address in most cases.

In most cases of damage on one line, the panel chassis must be replaced.

C

Failure analysis for the drive system => DR4

Diagnose the SCAN Assy.

The abnormality is associated with a single scan line.

Is the waveform normal when the voltage is applied to the panel?
(See the oscilloscope photos.)

No

Is the 15P connector connected properly to the socket?

No

Reconnect the connector properly.

Yes

Yes

NG

Note1

Is the waveform of the SCAN IC control signal from the Y DRIVE Assy normal?

No

Replace the Y DRIVE Assy.

Yes

D

Replace the SCAN IC.

NG

Replace the panel chassis.

E

Note 1:

In a case where confirmation of the waveform for a particular line is impossible with an oscilloscope, it is possible to identify a defective line by lighting a particular line, using the following commands: (The SCAN IC outputting each line refers to the table.)

PON
FAY
MKRS01
BSMS01 (Command for reducing phosphor burn-in)
\$250000**** (In place of ****, input a figure between 0001 and 1080, which denotes an ordinal number of a particular line.)

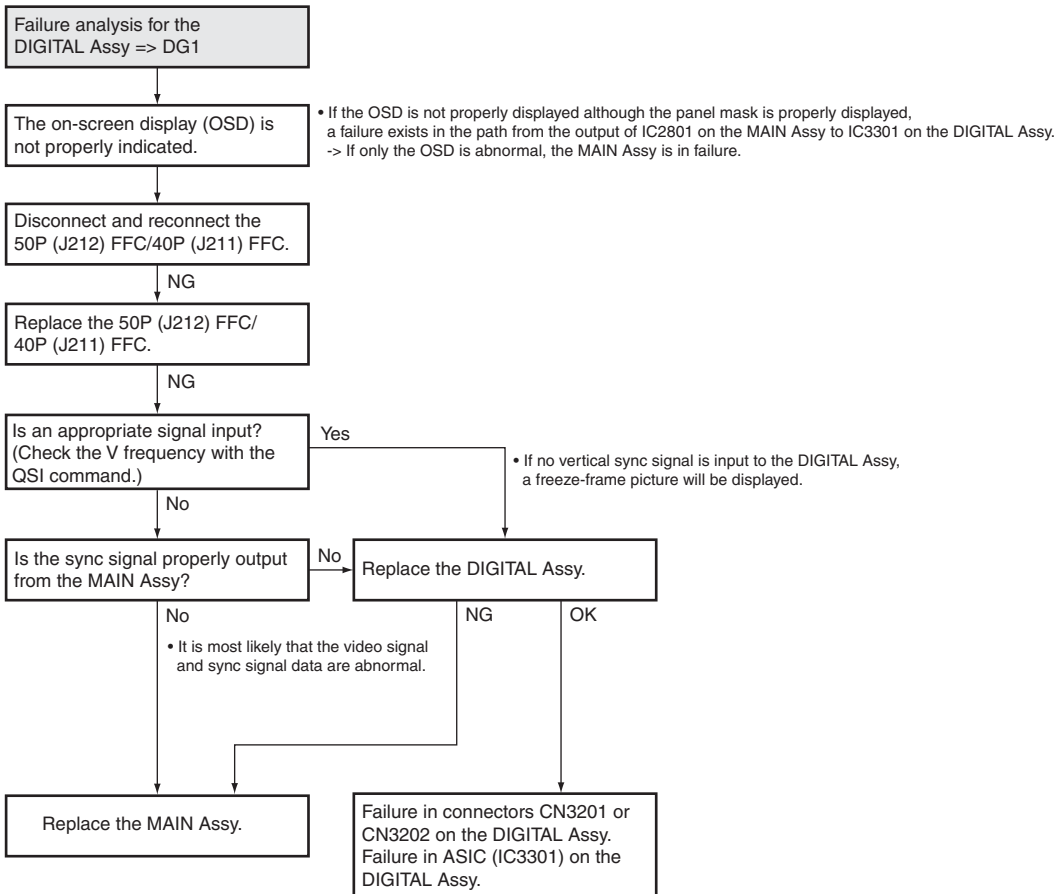
With the above commands, a particular line lights. Be careful to light a line for as short a time as possible, to avoid phosphor burn-in.
After a particular line is identified, display an all-white screen to protect the screen from burn-in.

F

IC No.	Line Number	Object Line
No 1	66	0001 to 0066
No 2	68	0067 to 0134
No 3	68	0135 to 0202
No 4	68	0203 to 0270
No 5	68	0271 to 0338
No 6	68	0339 to 0406
No 7	68	0407 to 0474
No 8	66	0475 to 0540
No 9	66	0541 to 0606
No 10	68	0607 to 0674
No 11	68	0675 to 0742
No 12	68	0743 to 0810
No 13	68	0811 to 0878
No 14	68	0879 to 0946
No 15	68	0947 to 1014
No 16	66	1015 to 1080

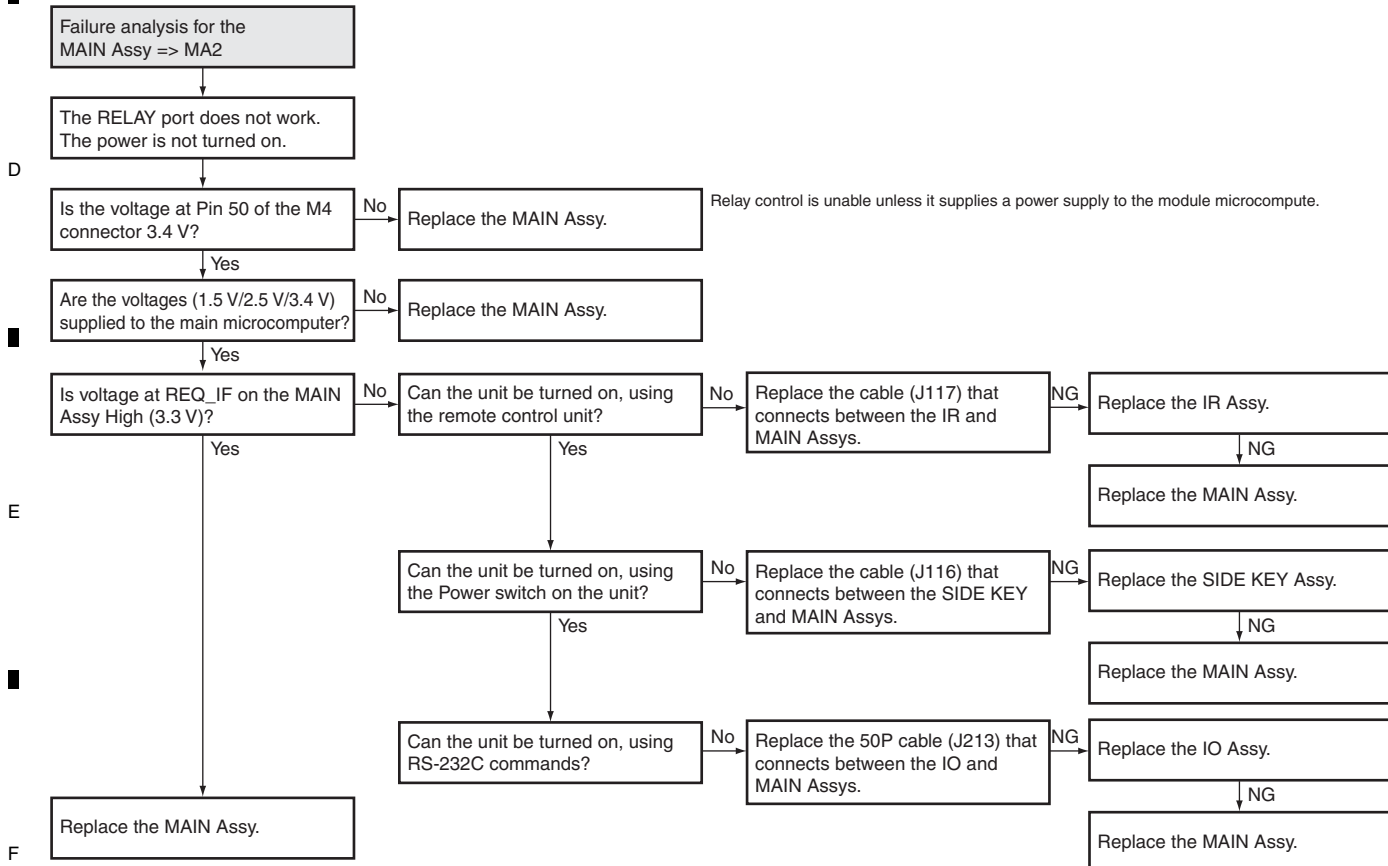
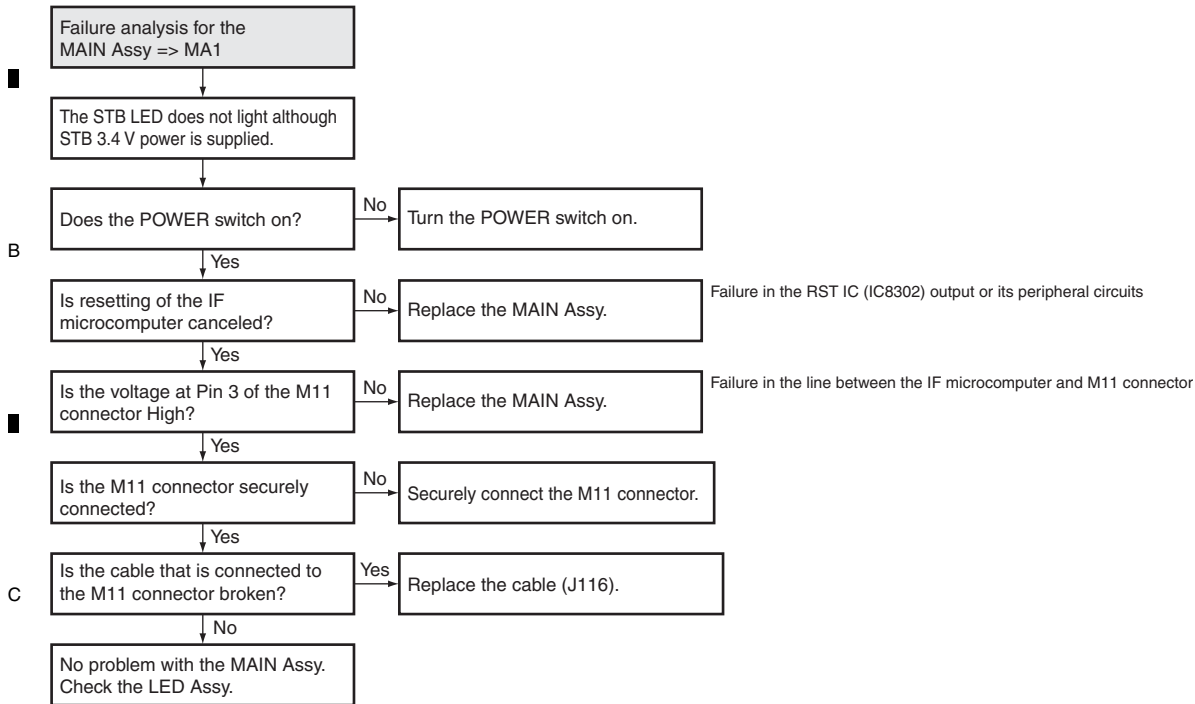
[4] DIGITAL ASSY

Flowchart of Failure Analysis for The DIGITAL Assy

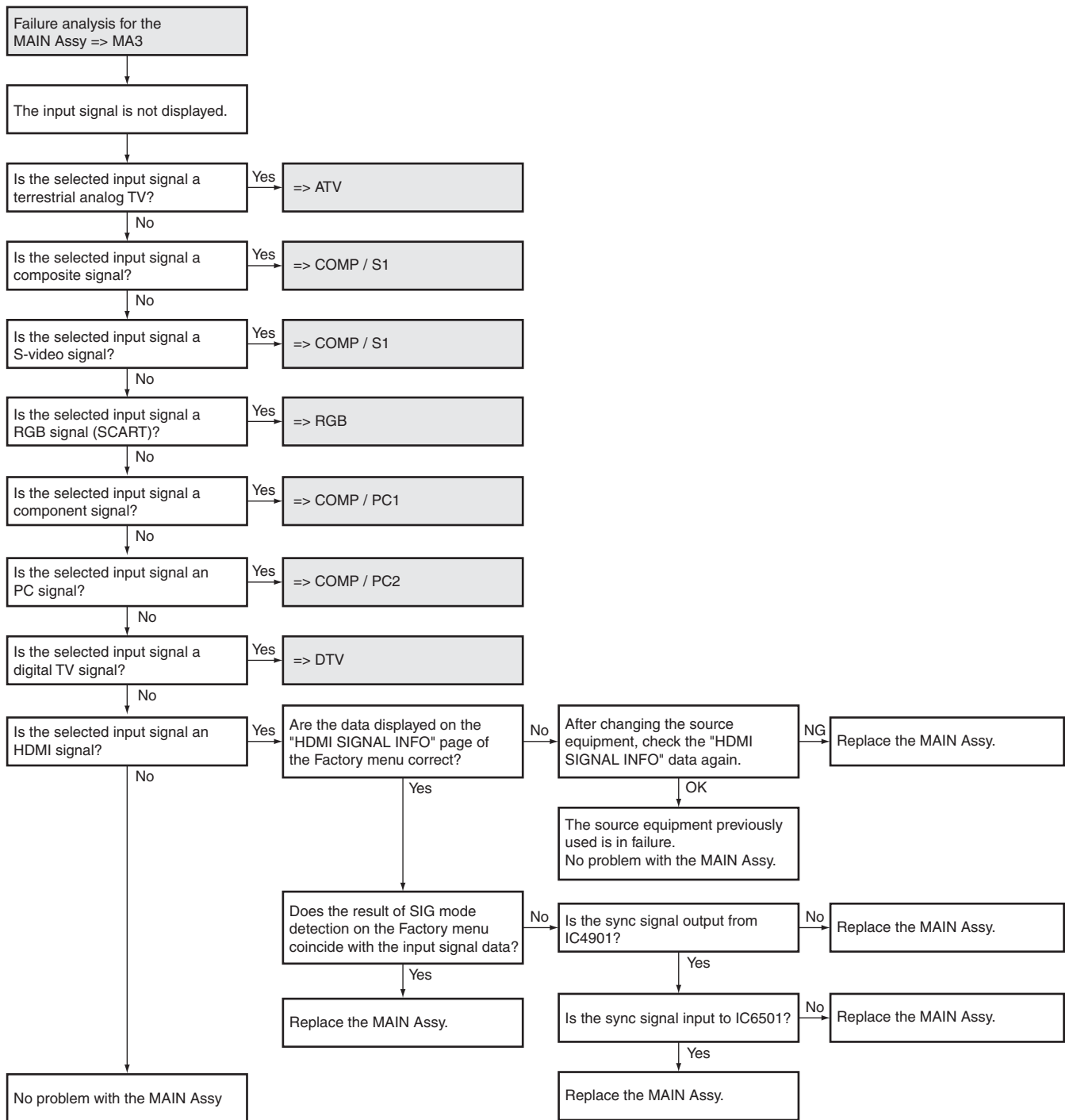


A [5] MAIN ASSY

Flowchart of Failure Analysis for The MAIN Assy

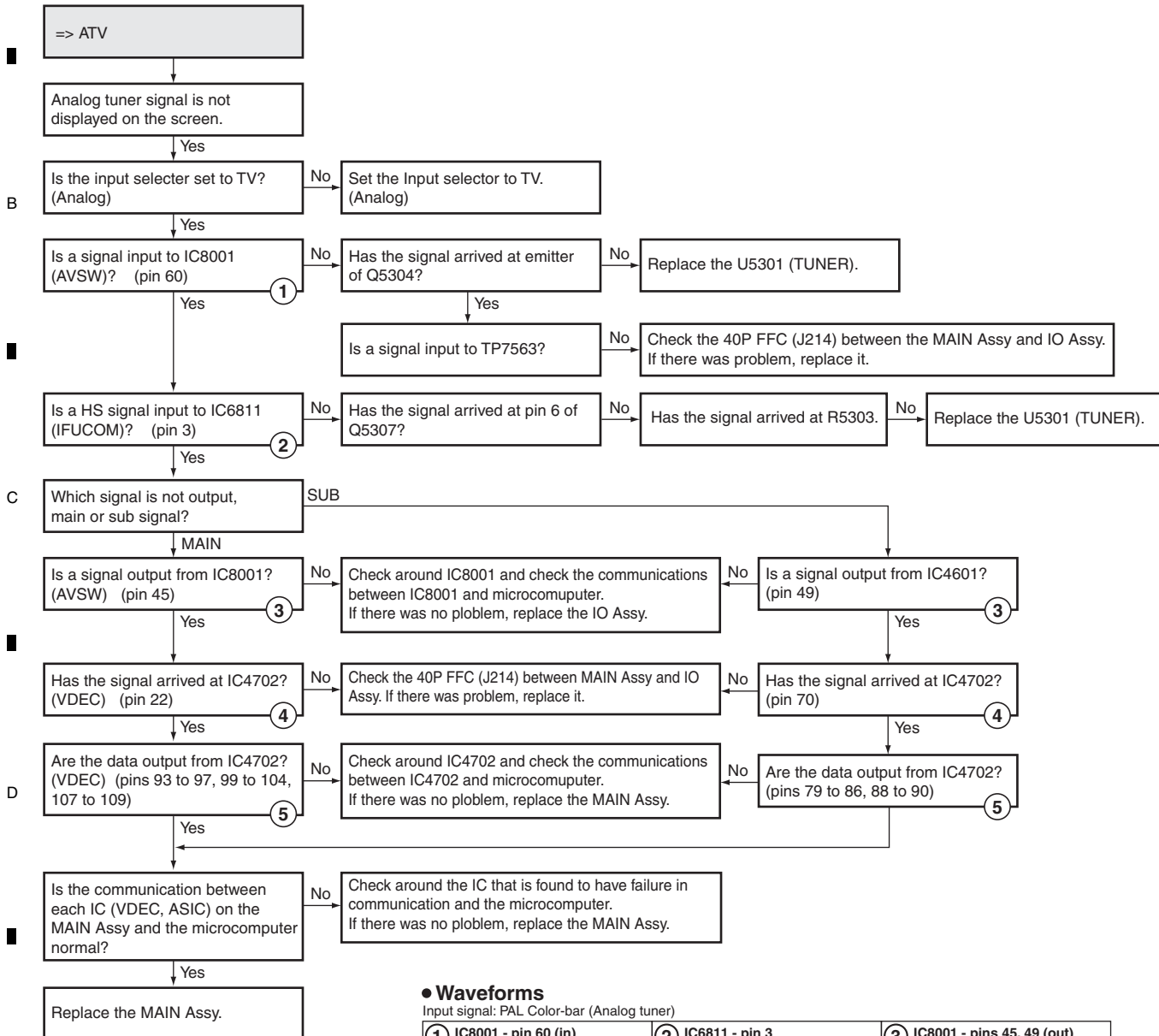


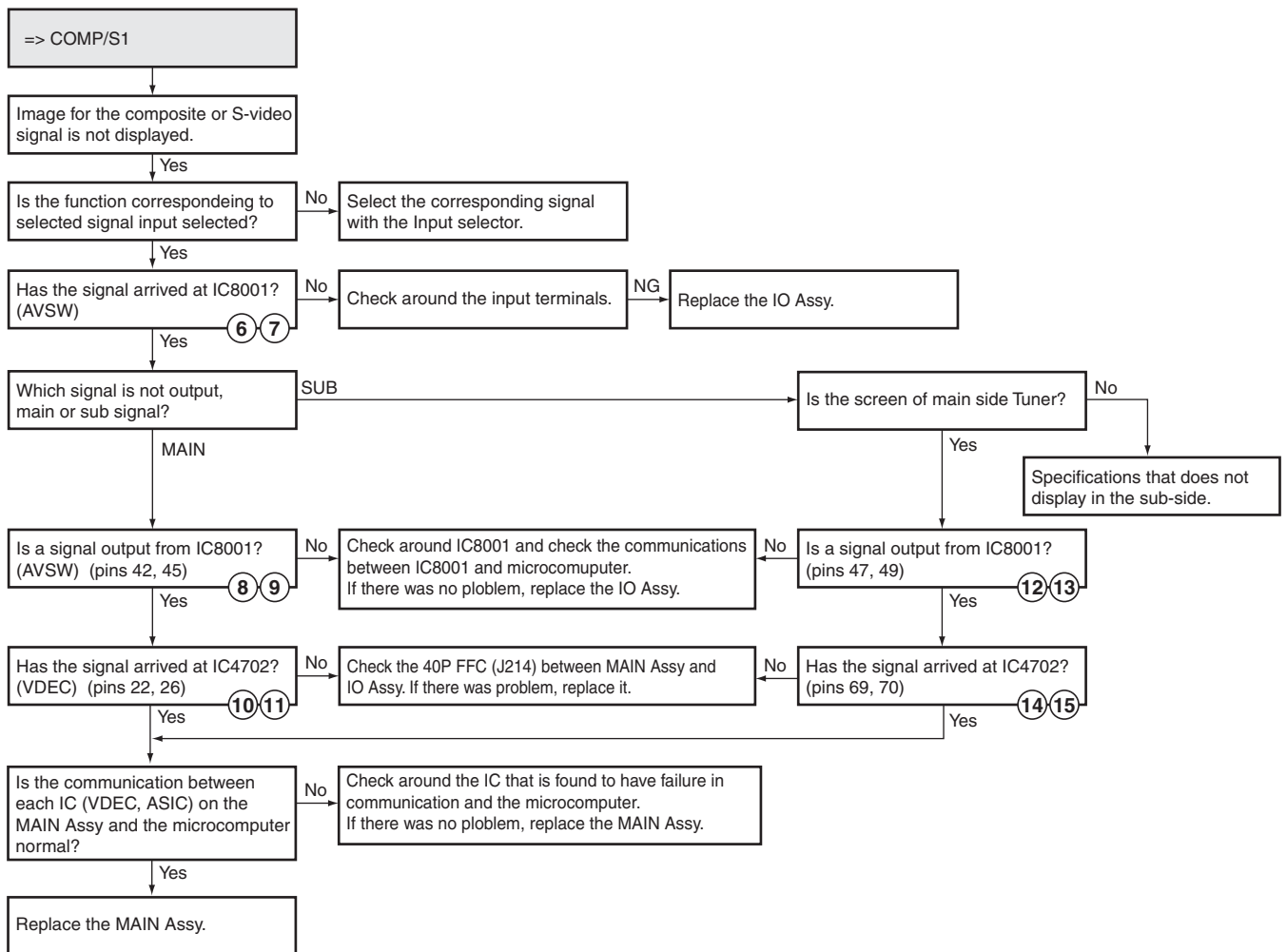
Flowchart of Failure Analysis for The Video System



A [6] VIDEO SYSTEM

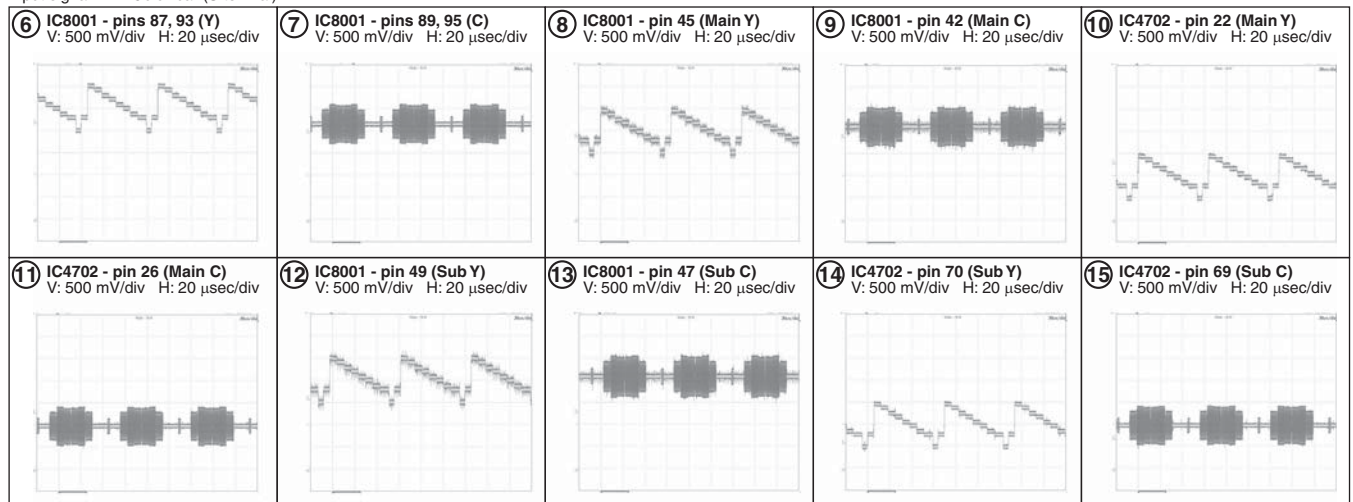
Flowchart of Failure Analysis for The Video System





• Waveforms

Input signal: PAL Color-bar (S terminal)



A

=> RGB

Image for the RGB (SCART) input signal is not displayed.

Yes

Is the function corresponding to selected signal input selected?

No

Select the corresponding signal with the Input selector.

Yes

B

Has the signal arrived at IC8101 (RGBSW)?

No

Check around the input terminals.

No

Replace the IO Assy.

Yes

Is a signal output from IC8101? (pins 41, 43 and 45) ①⑥ ①⑦ ①⑧

No

Check around IC8101 and check the communications between IC8101 and microcomputer. If there was no problem, replace the IO Assy.

Yes

Has the signal arrived at IC4702? (pins 27, 28 and 65) ①⑨ ②⑦ ②⑧ ②①

No

Check the 40P FFC (J214) between MAIN Assy and IO Assy. If there was problem, replace it.

Yes

C

Which signal is not output, main or sub signal?

Sub

Is the screen of main side Tuner?

No

Specifications that does not display in the sub-side.

Main

Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?

No

Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN Assy.

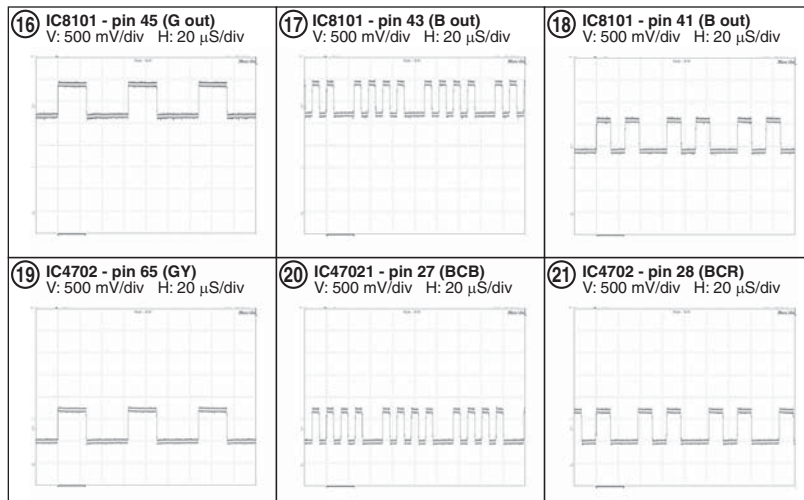
Yes

Replace the MAIN Assy.

D

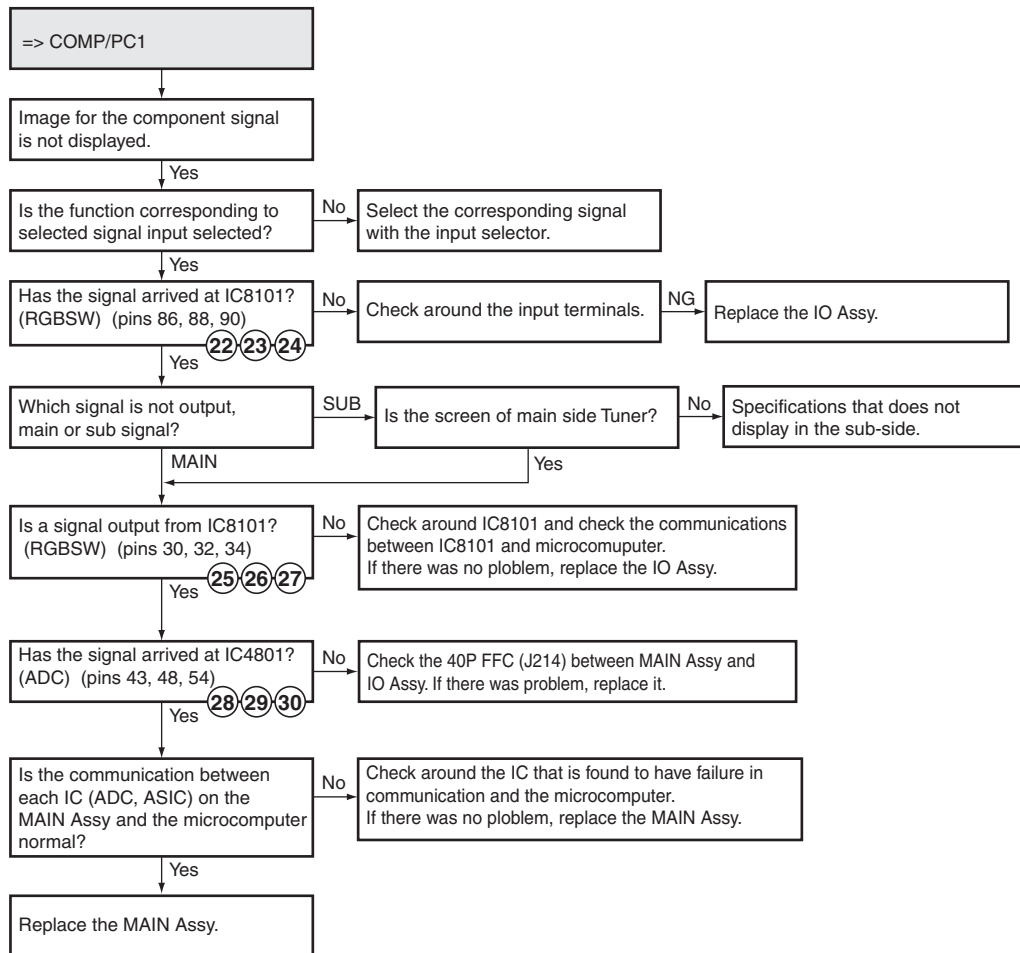
Waveforms

Input signal: PAL Color-bar (SCART RGB terminal)



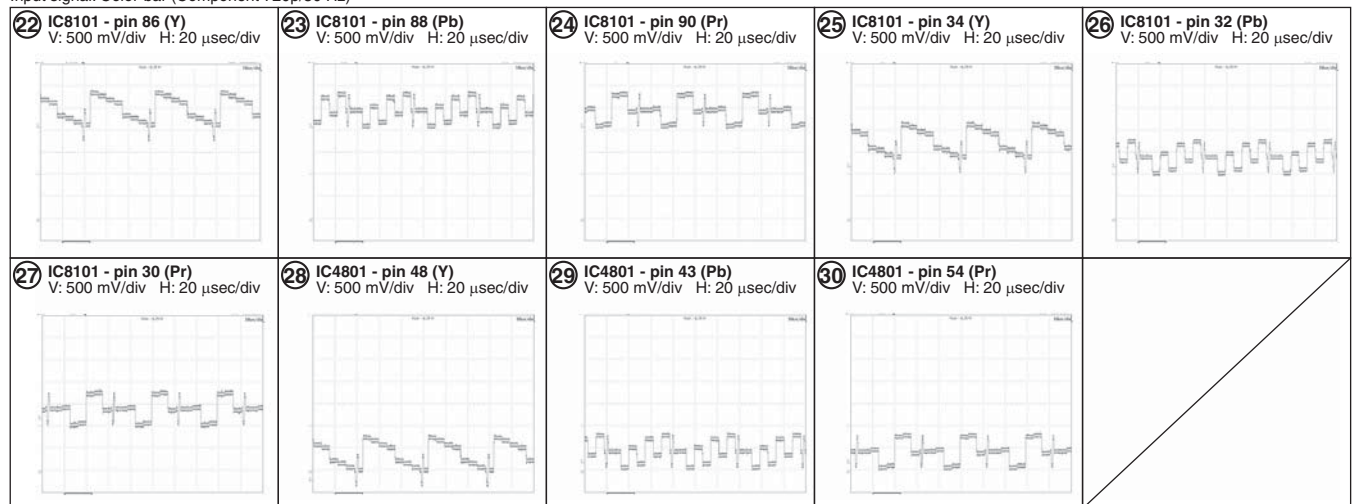
E

F

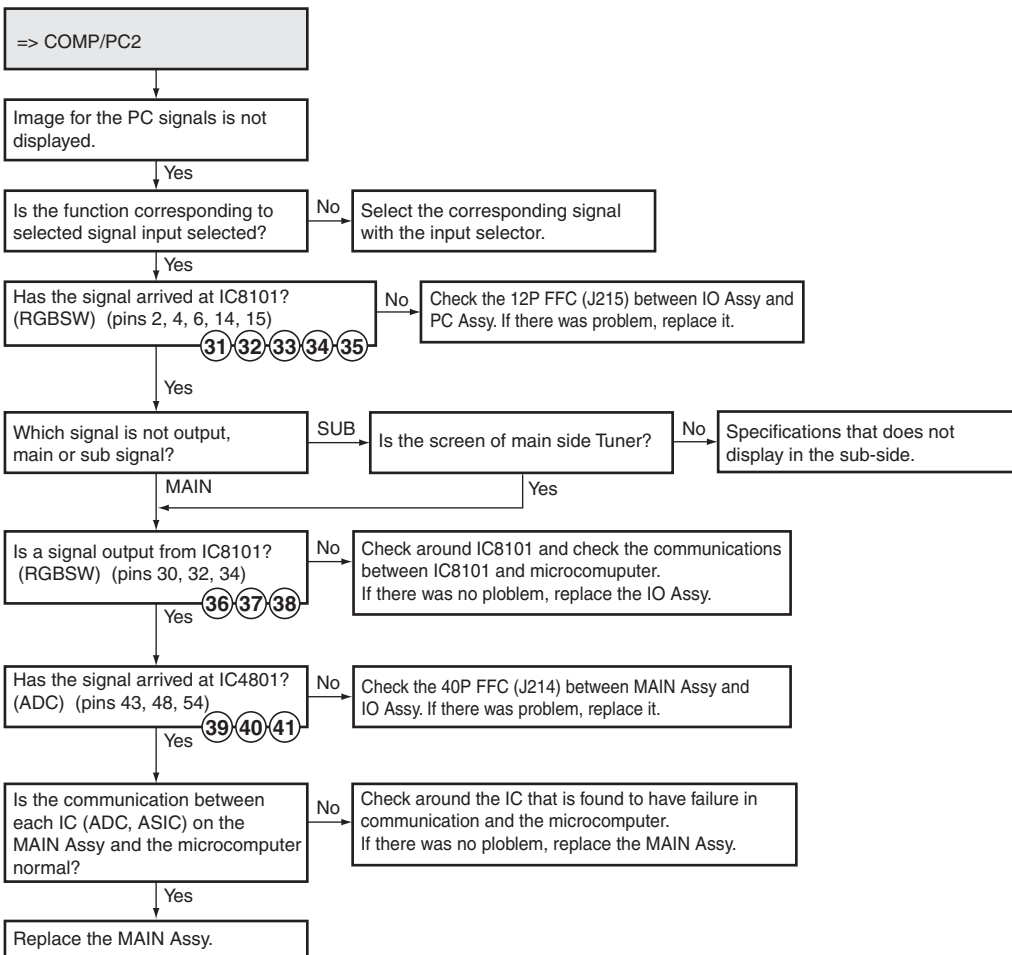


• Waveforms

Input signal: Color-bar (Component 720p/50 Hz)



A



B

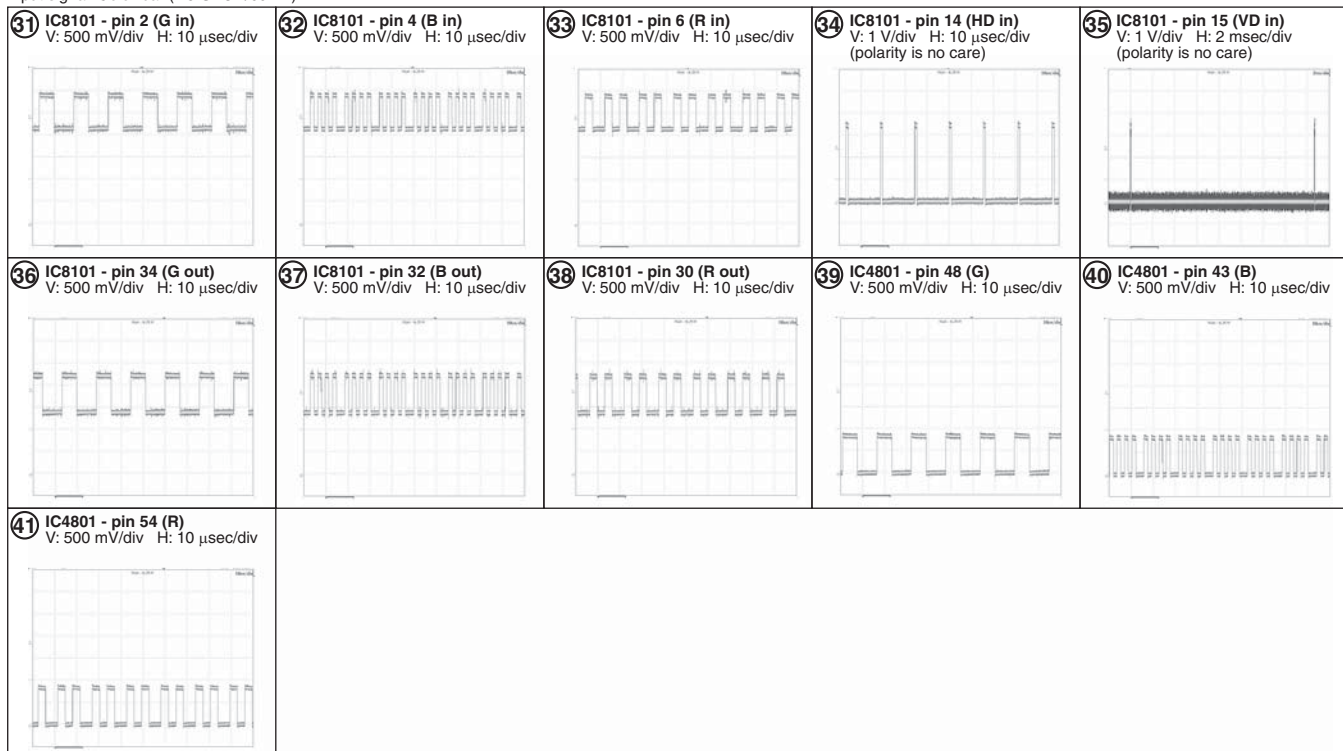
C

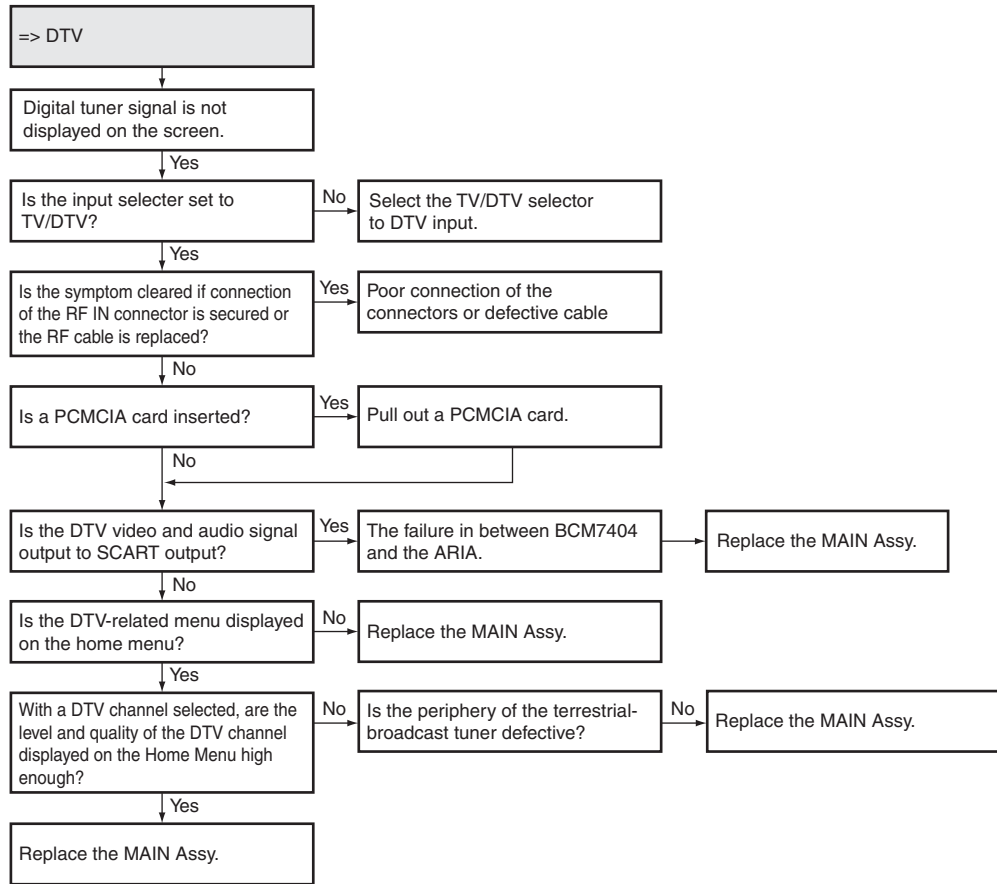
E

F

• Waveforms

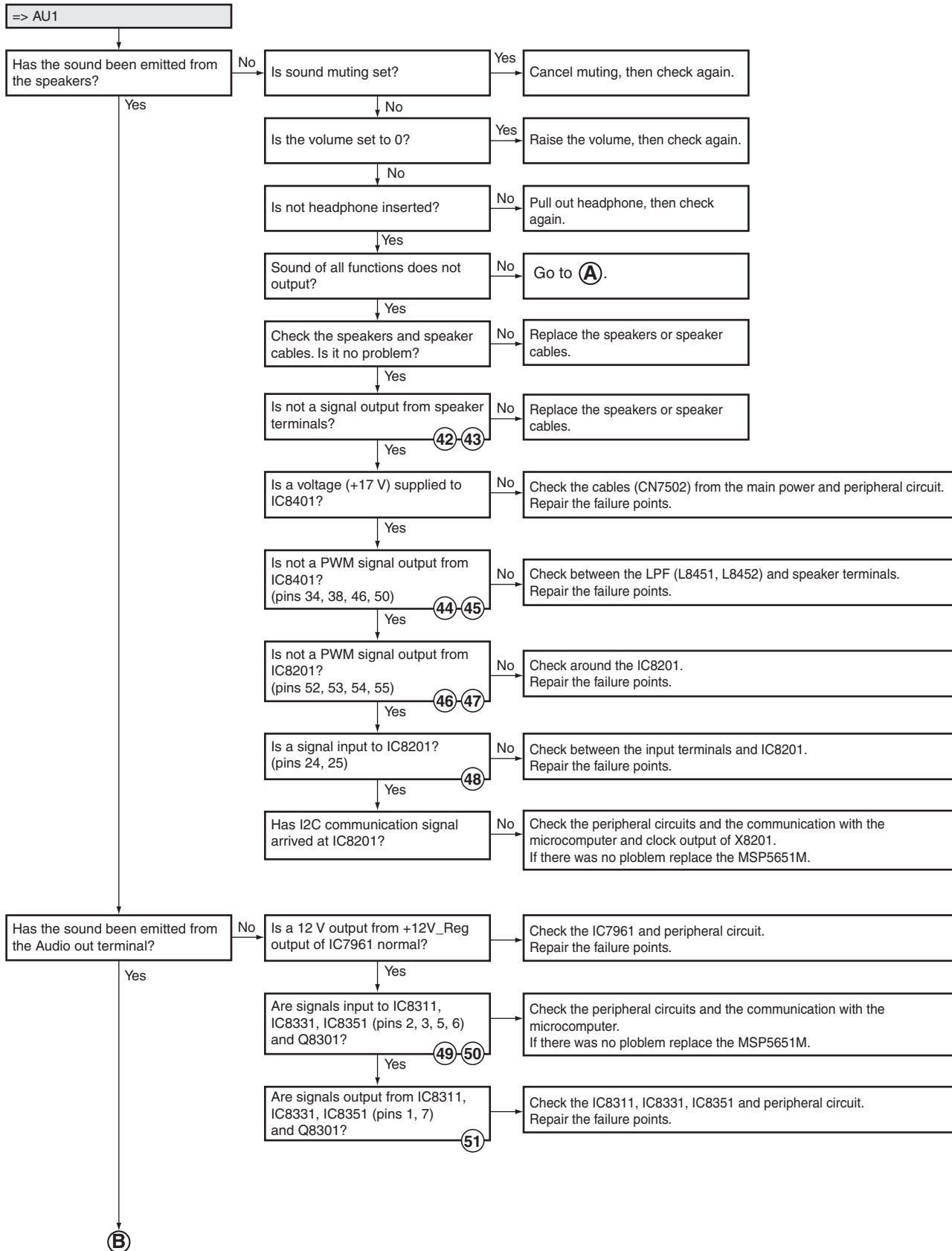
Input signal: Color-bar (PC SXGA/60 Hz)

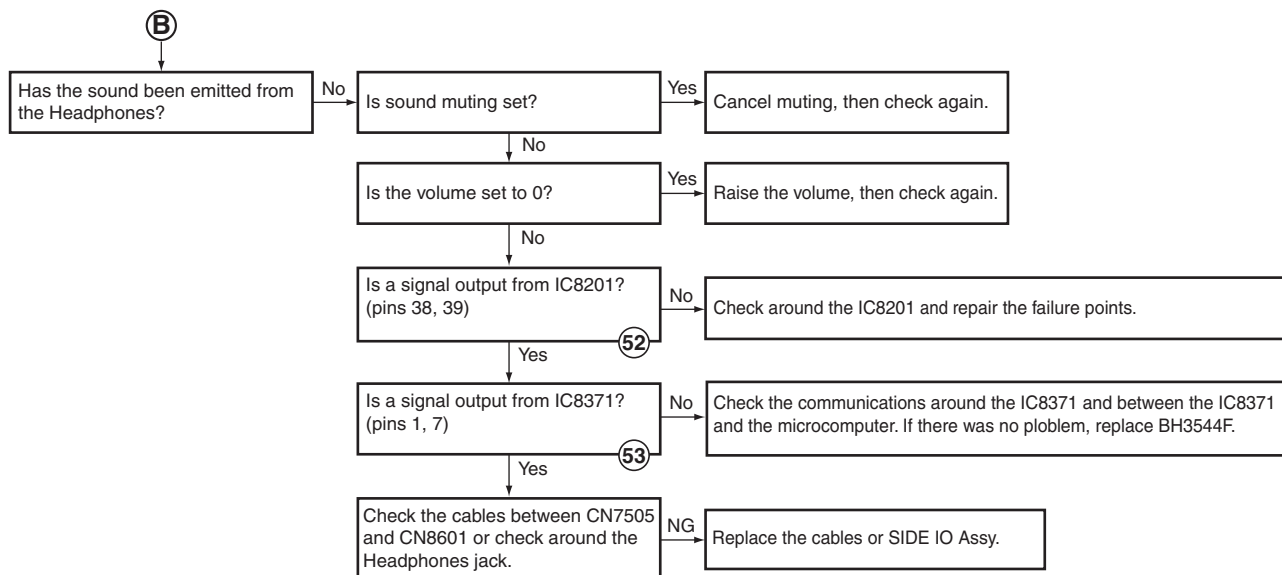




A [7] AUDIO SYSTEM

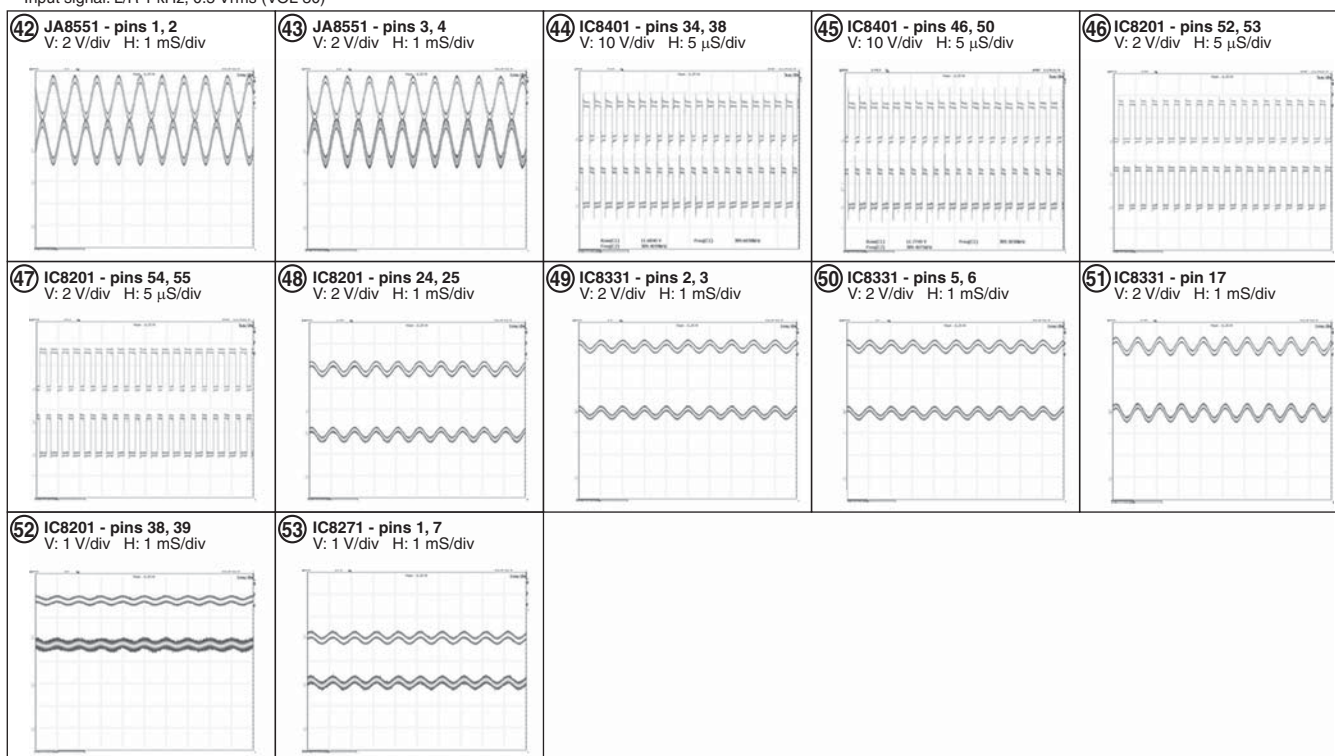
Flowchart of Failure Analysis for The Audio System



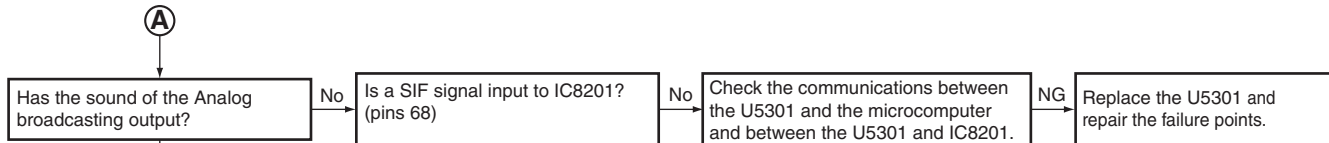


• Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)



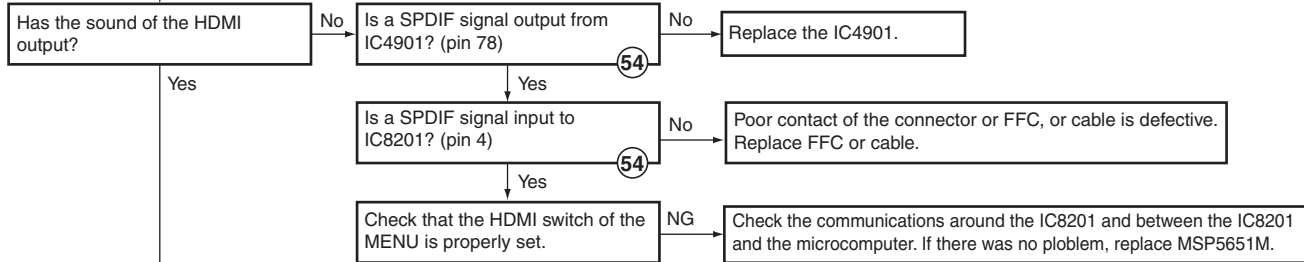
A



Yes

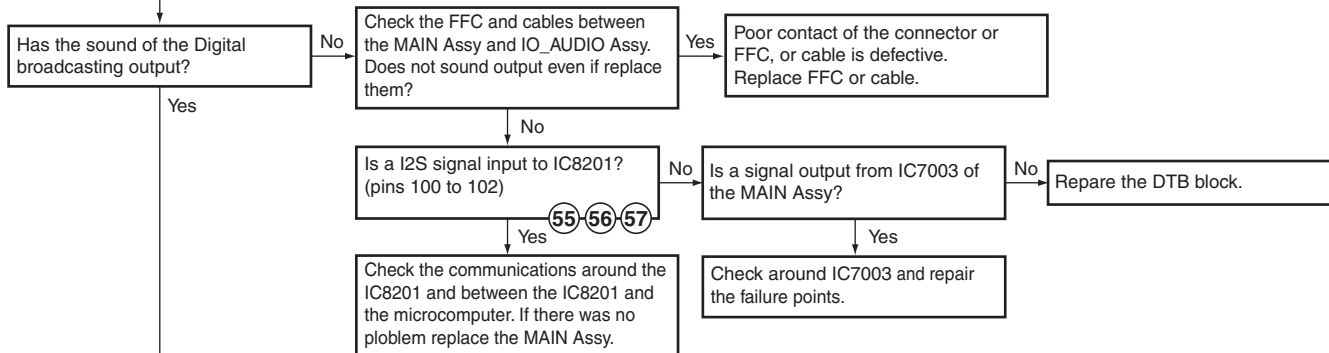
Check the communications around the IC8201 and between the IC8201 and the microcomputer. If there was no problem, replace MSP5651M.

B



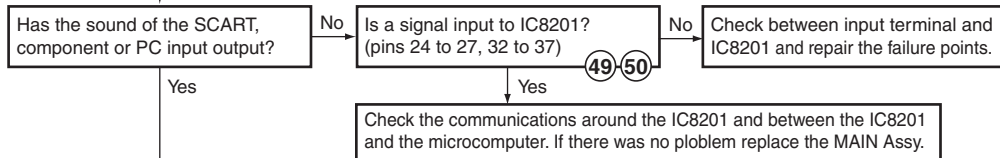
Yes

C



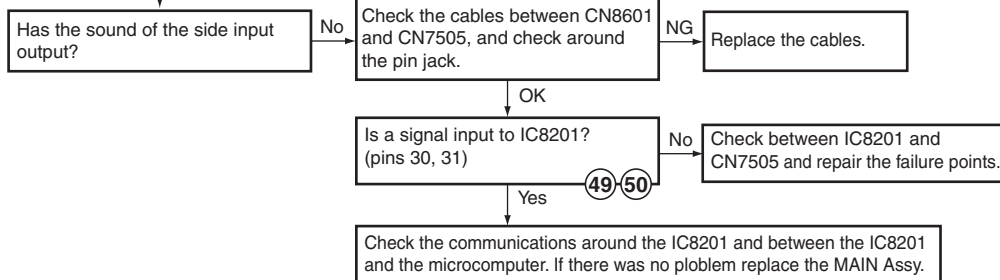
Yes

D



Yes

E



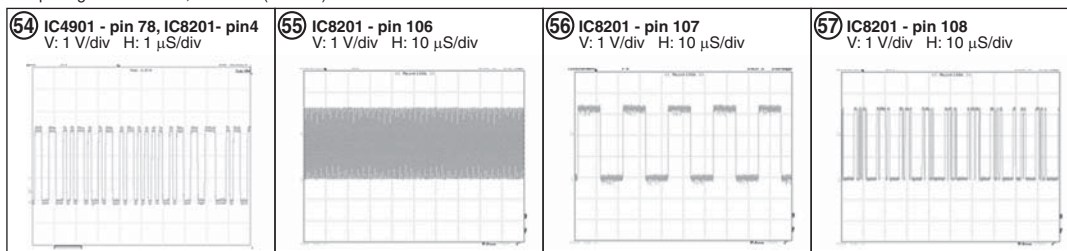
No

OK

Yes

Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)



F

■

5

■

6

■

7

■

8

■

A

■

B

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C

■

D

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E

■

F

■

5

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6

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7

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8

■

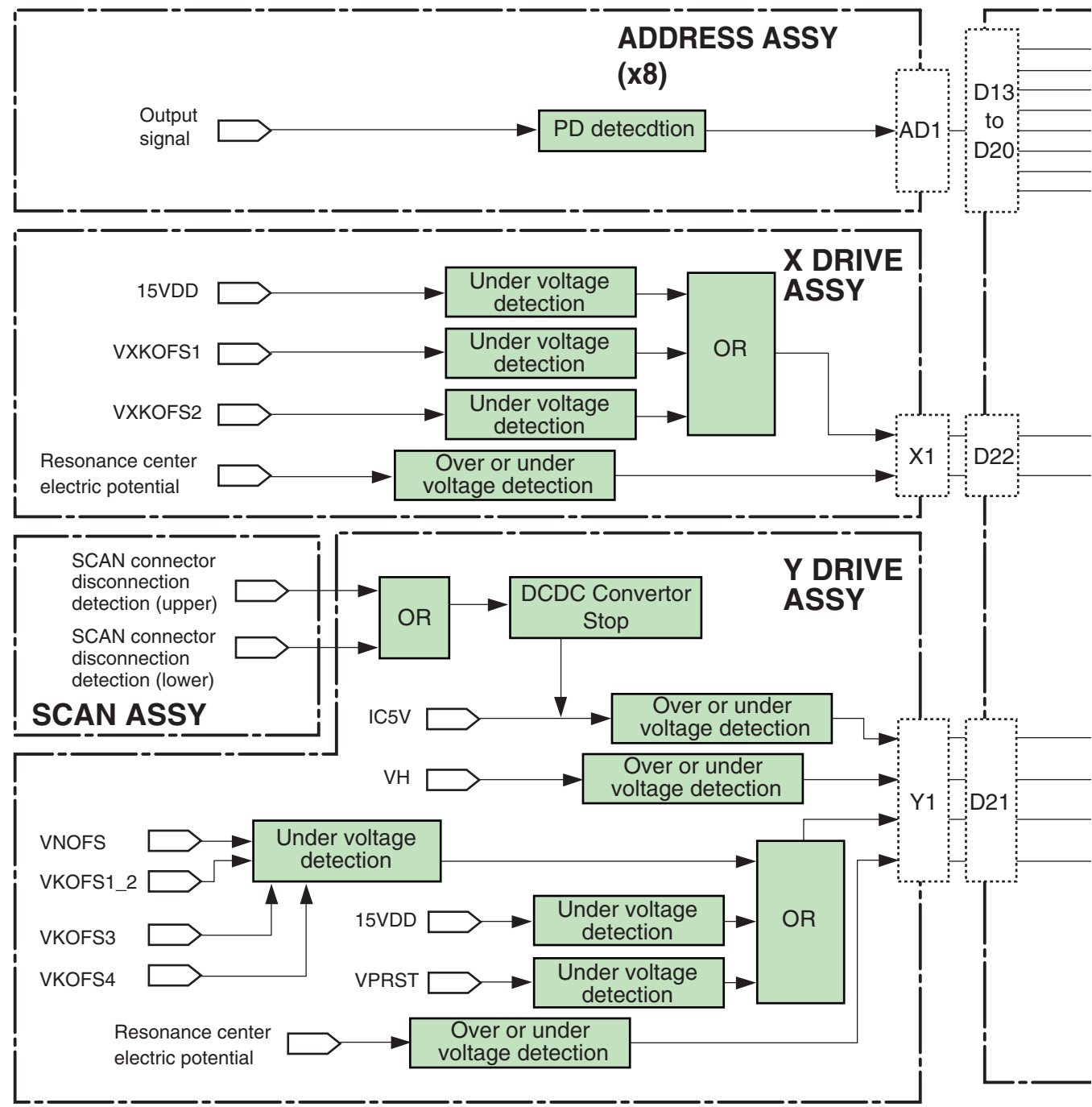
PDP-LX6090

65

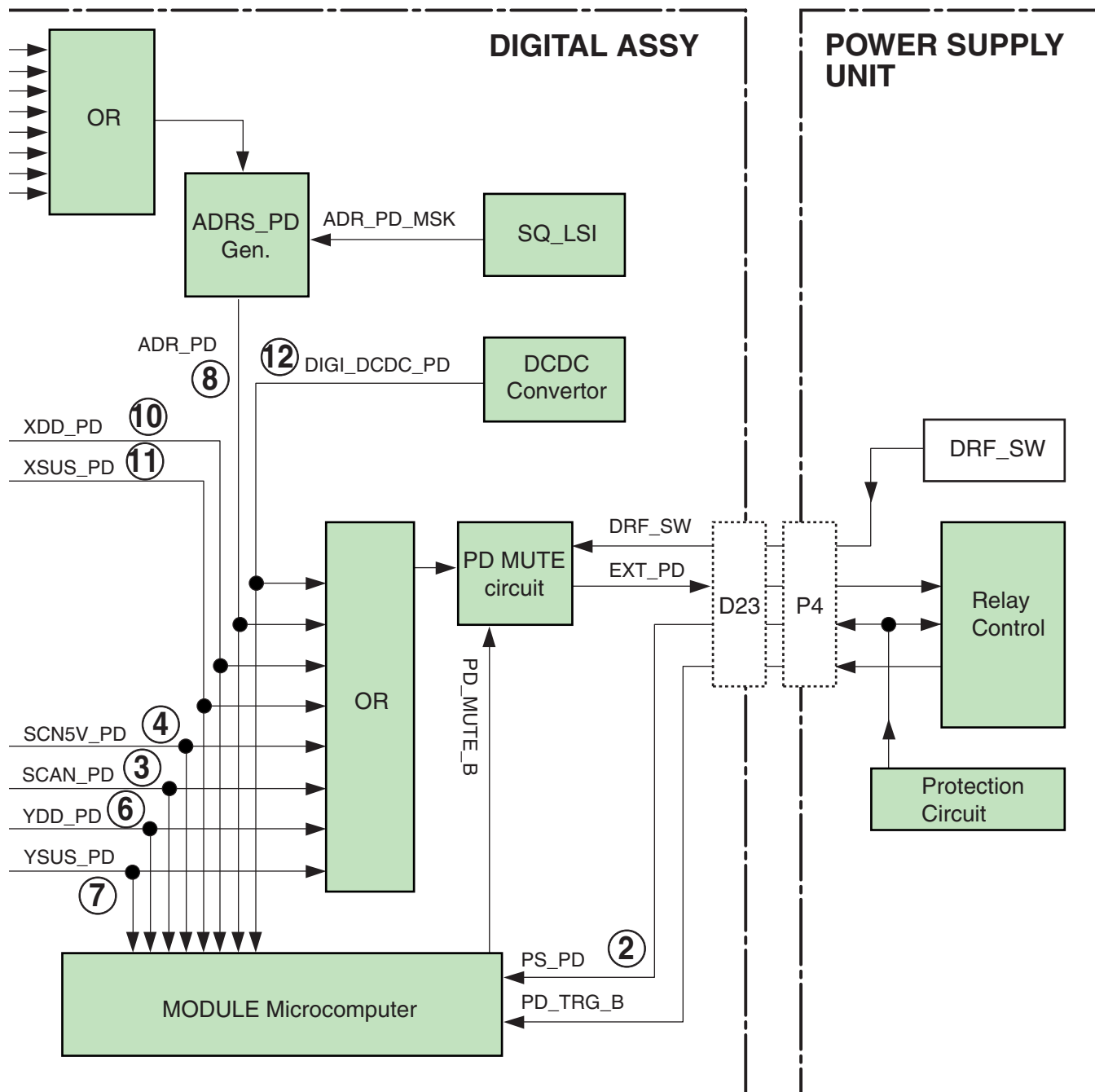
1 2 3 4

5.3 DIAGNOSIS OF PD (POWER-DOWN)

A [1] BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL



The figures ② to ⑫ indicate the number of times the Red LED flashes when power-down occurs in the corresponding route.



[2] PD (POWER-DOWN) DIAGNOSIS OF FAILURE ANALYSIS

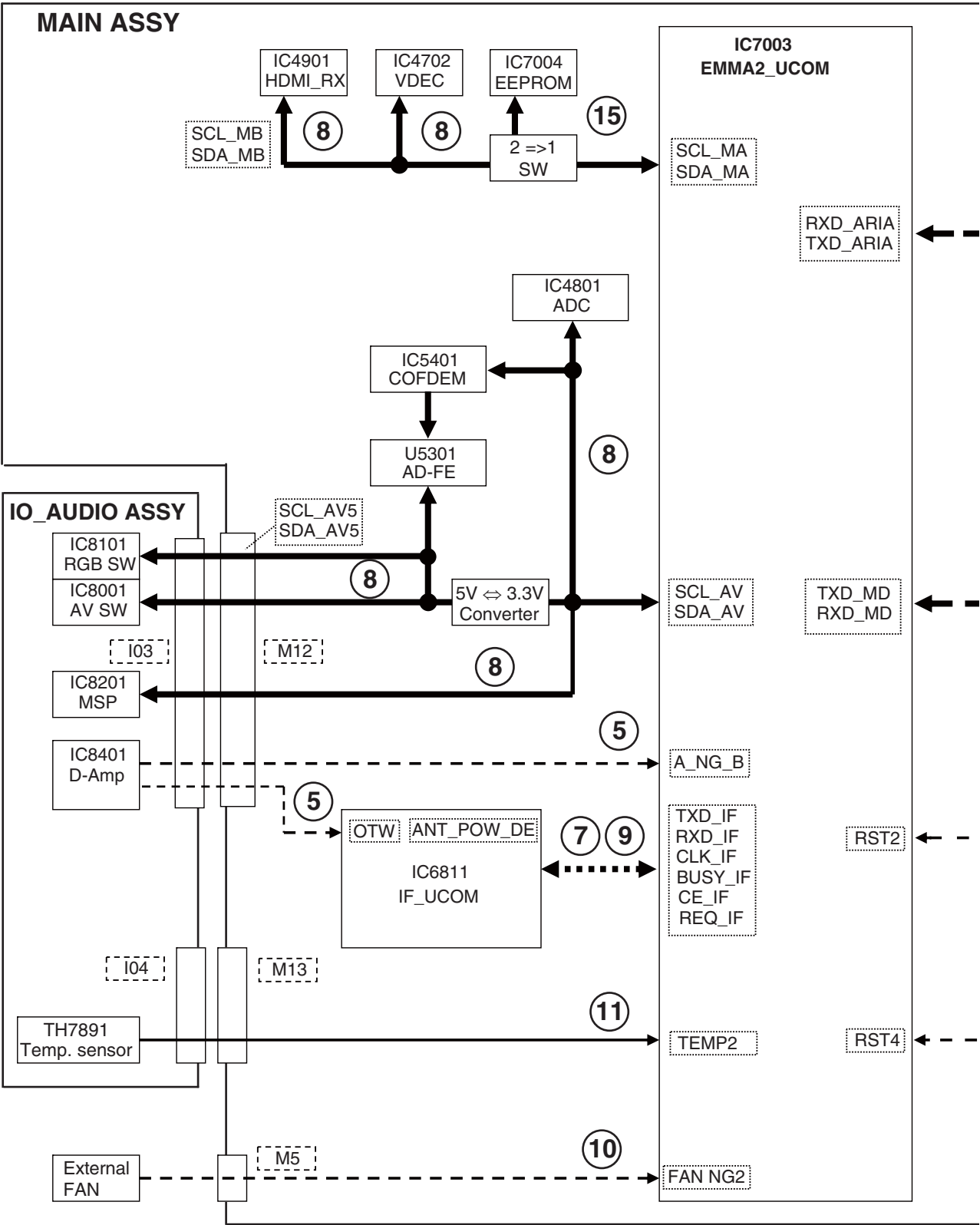
Red LED Flashing Count	Factory History Display	Defective Assy	PD Outline	Checkpoint
2	P-PWR	POWER SUPPLY Unit	Each PD in the POWER SUPPLY Unit	
			Connector disconnection	Connector [P14][P15] (60°only)
		X DRIVE Assy	VSUS under voltage protection	X SUS block
		Y DRIVE Assy	VSUS under voltage protection	Y SUS block
		ADDRESS Assy	Connector disconnection	Connector [AD1]
3	SCAN	DIGITAL Assy	Connector disconnection	Connector [D13] to [D20]
		SCAN Assy		SCAN IC
		X DRIVE Assy		X SUS block
			VH over or under voltage protection	Y SUS block
		Y DRIVE Assy		VH DC/DC
4	SCN5V			OFFSET block
			Connector disconnection	Connector [Y1][Y2]
		DIGITAL Assy	Connector disconnection	Connector [D21]
		SCAN Assy	Connector disconnection	Connector [SA1][SB1][SB2][SC1][SC2][SD1]
		Y DRIVE Assy	IC5V over or under voltage protection	SCAN IC
6	Y-DCDC	Y DRIVE Assy		IC5V DC/DC
			VNOFS under voltage protection	Y MSK block
				NOFS block
				VNOFS DC/DC
			VYPRST under voltage protection	VPRST regulaotr
				PR-U block
			15VDD under voltage protection	15V DC/DC
				SOFT-G block
			VKOFS1,2 under voltage protection	Y MSK block
				KNOFS2 block
7	Y-SUS	Y DRIVE Assy		VYKOFS1, 2 regulaotr
			VKOFS3 under voltage protection	Y MSK block
				VYKOFS3 regulaotr
			VKOFS4 under voltage protection	Y MSK block
				KNOFS4 block
				VYKOFS4 regulaotr
			Over or under voltage protection of the center electric potential	Y resonance block
			DIGITAL Assy	SEQ_LSI (Sync input, output waveform)
			ADDRESS Assy	Address resonance block
				TCP
8	ADRS	ADDRESS Assy	VADR under voltage protection	Connector [AD1][AD2]
			Connector disconnection	Connector [D13] to [D20]
			DIGITAL Assy	Connector [Y2][Y5][Y6]
			Y DRIVE Assy	Connector [X2][X3][X4]
			X DRIVE Assy	Connector [P1][P2]
10	X-DCDC	X DRIVE Assy	Connector disconnection	Connector [X2]
			15VDD under voltage protection	X SUS block
				15V DC/DC
			VXKOFS1 under voltage protection	VXKOFS1 regulaotr
				X OFFSET block
11	X-SUS	X DRIVE Assy	VXKOFS2 under voltage protection	VXKOFS2 regulaotr
				X OFFSET block
			Over or under voltage protection of the center electric potential	X resonance block
			3.3V, 2.5V, 1.1V	DC/DC controlo IC
			Over voltage/under voltage/overcurrent protection	DC/DC block
15	UNKNOWN	POWER SUPPLY Unit	Connector disconnection	Connector [P4]
		DIGITAL Assy	Connector disconnection	Connector [D23]
			ModuleUcom can not detection	Each PD line of ModuleUcom

Possible Defective Part	Remarks
Q1218,Q1219,Q1221-Q1223,Q1226	The POWER SUPPLY Unit of 60 inches model is a structure of the two parts. VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
Q2217-Q2224	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
each SCAN IC	The abnormality of the SCAN IC
Q1218,Q1219,Q1221-Q1223,Q1226	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
Q2217-Q2219,Q2221-Q2223	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
IC2601,IC2603,IC2604	
Q2401,Q2402	KNOFS1 and KNOFS3 are short-circuited.
	[SB2][SC1][SC2][SD1] are 60 inches model only.
each SCAN IC	
Q2764,D2768,R2764	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2424,Q2429	NOFS is short-circuited.
D2606,Q2709-Q2711	
Q2604,Q2605,IC2602	
Q2418	PR-U is short-circuited.
Q2662,R2669,L2301,R2335	
Q2427	SOFT-G is short-circuited.
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2430	KNOFS2 is short-circuited.
Q2702,Q2705,R2714	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2703,Q2706,R2715	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2432	KNOFS4 is short-circuited.
Q2704,Q2707,R2717	
Q2106-Q2109,Q2111,Q2113,D2104-D2107	
IC3301,IC3302	The history of SD1 remains
Q1711,Q1721,Q1731,Q1741,Q1911,Q1921,Q1931,D1711,D1721,D1731,D1741,D1911,D1921,D1931	
TCP (IC1651,IC1661,IC1671,IC1681,IC1851,IC1861,IC1871)	When the TCP is damaged, replace the panel. Ref No. of L Assy (6 pieces) and S Assy (2 pieces) are common use.
L1201,R1217	
Q1402	
Q1405,Q1406	
Q1302,Q1304	
Q1403,Q1404	
Q1301,Q1303	
Q1108,Q1112,Q1116,Q1119	
IC3801	
Q3841,Q3861,Q3881,L3841,L3861,L3881	
R3820,R3848,R3868,R3888	
	EXT_PD line : Open
	EXT_PD line : Open
	It becomes "UNKNOWN" except above-mentioned PD detection condition.

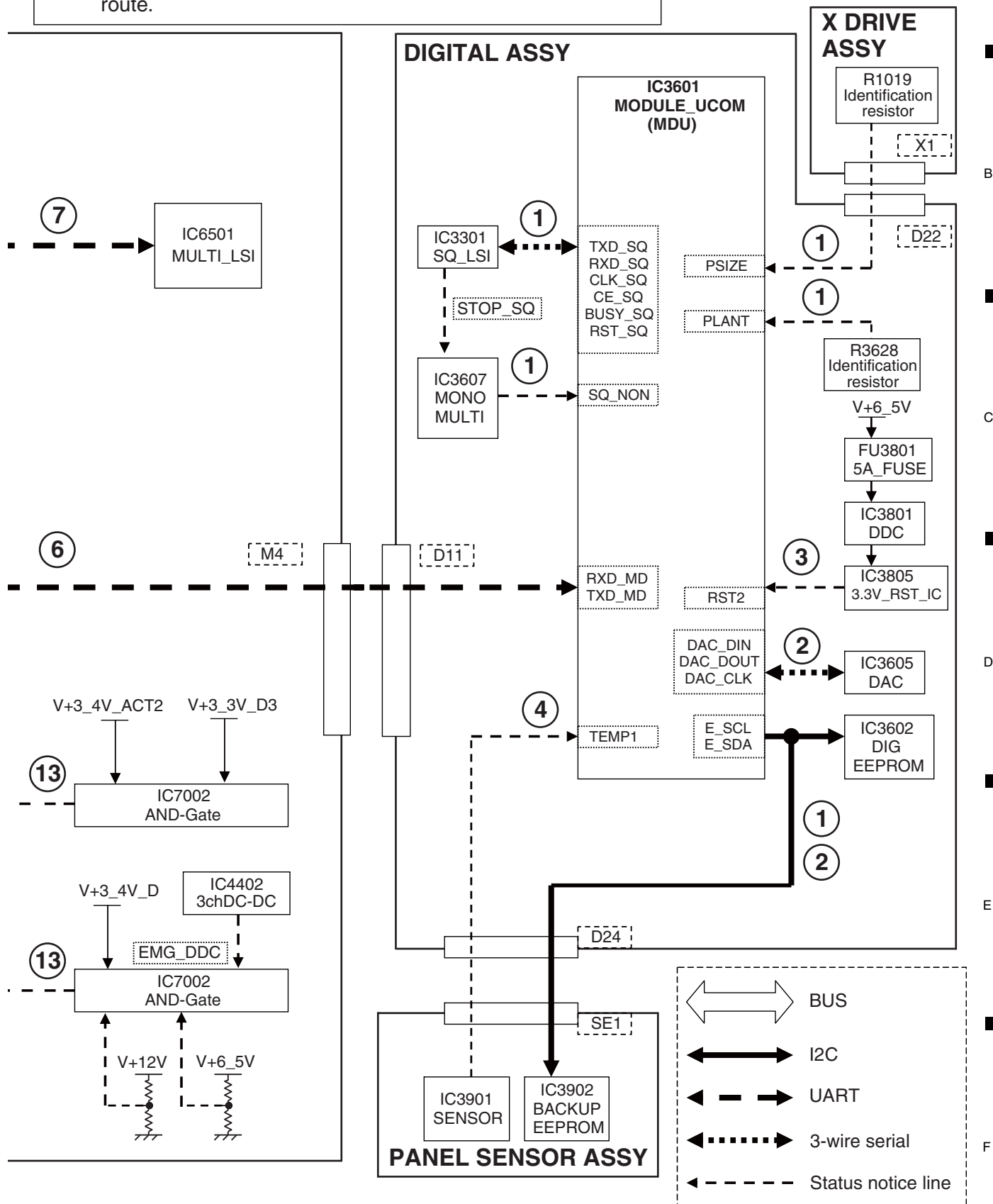
1 2 3 4

5.4 DIAGNOSIS OF SD (SHUTDOWN)

A [1] BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL



Note : The figures ① to ⑮ indicate the number of times the Blue LED flashes when shut-down occurs in the corresponding route.



[2] SD (SHUTDOWN) DIAGNOSIS

Frequency of LED Flashing (*1)		Major Type	Detailed Type	Log Indication in Factory Mode		
				MAIN	SUB	
Blue 1	Orange 1	Abnormality in the Sequence LSI	Communication error	SQ-LSI	RTRY	
	Orange 2		Drive stop		SQNO	
	Orange 3		Busy		BUSY	
	Orange 4		Version mismatching (hardware, software)		VER-HS	
	Orange 5		Version mismatching (hardware, backup memory)		VER-HM	
	Orange 6		Version mismatching (hardware, DIGITAL memory)		VER-HI	
Blue 2	Orange 1	Failure in MDU device communication	Digital EEPROM	MD-DEV	EEPROM	
	Orange 2		Backup EEPROM		BACKUP	
	Orange 3		DAC IC		DAC	
Blue 3	—	Abnormality in RST2 power decrease	—	RST2	—	
Blue 4	Orange 1	Abnormality in panel temperature	Abnormality in high temperature	TMP-NG	TMP-H	
	Orange 2		Abnormality in low temperature		TMP-L	
Blue 5	—	Short-circuiting of the speakers D-AMP temperature abnormality	—	AUDIO	—	
	—					
	—					
Blue 6	—	Failure in communication with the module microcomputer	—	MODULE	—	
Blue 7	Orange 1	Failure in IF microcomputer	IF microcomputer	MA-3L	IF	
	Orange 2	3-wire serial communication	MULTI		MULTI	
Blue 8	Orange 1	Failure in IIC communication with the main microcomputer	Tuner 1	MA-IIC	FE1	
	Orange 2		MSP/MAP		MSPMAP	
	Orange 3		AV switch		AV-SW	
	Orange 4		RGB switch		RGB-SW	
	Orange 5		Main VDEC		VDEC	
	Orange 6		VDEC SDRAM		SDRAM	
	Orange 7		AD/PLL		ADC	
	Orange 8		HDMI		HDMI	
	Orange 13		COFDEM		DEMOD	
Blue 9	—	Failure in communication with the main microcomputer	—	MAIN	—	
Blue 10	Orange 2	Abnormality in FAN	FAN2	FAN	FAN2	
Blue 11	—	High temperature of the unit	—	TEMP2	—	
Blue 12	Orange 1	Digital Tuner	DTV startup error	DTUNER	PS/RST	
Blue 13	Orange 1	Failure in the power supply	DC-DC Converter power decrease	RST-MA	M-DCDC	
	Orange 2		POWER SUPPLY		RELAY	
Blue 15	—	Main EEPROM	Main EEPROM communication error	MA-EEP	—	
—	—	Digital Tuner	DTV Antenna	DTUNER	D-ANT	

*1: If the DISPLAY key is pressed during shutdown (the blue LED is flashing), flashing of the orange LED, which indicates the subcategory, can be confirmed. The blue LED remains flashing. Pressing the DISPLAY key again will make the orange LED go dark.

Checkpoint	Possible Defective Part	Remarks
Communication line between MDU and SQ_LSI	IC3601/IC3301	SQ_IC communication not established. IC3301 may not have properly started up.
Drive detectig signal of MDU (SQ_NON)	CN3201/IC3601/ IC3301/IC3607	A shutdown occurs if the drive waveform periodically does not output. (When SQ_NON of MDU input is High, a shutdown is generated.)
Communication line between MDU and SQ_LSI (BUSY_SQ)	IC3601/IC3301	If BUSY_SQ remains high, a shutdown is generated.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connection between [X1] and [D22].	IC3601/IC3301	When the identification resistor of PSIZE/PLANT and software version of SEQ are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22], and [SE1] and [D24]. Communication line between MDU and BACKUP EEPROM	IC3601/ SENSOR Assy(IC3902)	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the SENSOR Assy are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22]. Communication line between MDU and DIG EEPROM	IC3601/IC3602	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the DIGITAL Assy are incoherent, a shutdown occurs.
Communication line between MDU and DIG EEPROM	IC3601/IC3602	
Communication line between MDU and BACKUP EEPROM	IC3601/SENSOR Assy(IC3902)	
Communication line between MDU and DAC	IC3601/IC3605	
3.3 V output (TP3881) of DDC	IC3801/IC3805	If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds.
V+6.5V of POWER SUPPLY Unit (Check [D25][P4]) FU3801 has melted.	POWER SUPPLY Unit, FU3801	Check if V + 6.5 V is started. Also check if the FU3801 on the DIGITAL Assy has been melted.
Installation environment	SENSOR Assy (IC3901)	If TEMP1 that is read by the module microcomputer is 85 °C or higher, a shutdown will be generated.
Installation environment Check the connection between SE1 and D24.	SENSOR Assy (IC3901)	A shutdown occurs if the reading of TEMP1 detected by the module micro-computer is -20 °C or less. Also check the connection between SE1 and D24.
Speaker terminals	JA8551	Check if any speaker cable is in contact with the chassis.
D_AMP	IC8401	Check if the AMP output is short-circuited. Check the temperature that is 125 °C or less.
Periphery of the cable between IO3 and M12, and IO4 and M13	CN7503,CN7504, CN4003,CN4004	Check if cables are firmly connected.
Communication line between MAIN and MOD	IC7003	Check the communication lines (TXD_MOD/RXD_MOD).
Periphery of the cable between D11 and M12	CN4101,CN4105	Check if cables are firmly connected.
Communication line between IF and MAIN	IC7003,IC6501	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Communication line between MULTI and MAIN	IC7003,IC6501	Check the communication lines (TXD_ARIA/RXD_ARIA).
IIC communication line between Tuner and MAIN	U5301,IC7003	Check the communication lines (SCL_TU/SDA_TU or SCL_AV/SDA_AV).
IIC communication line between MSP/MAP and MAIN	IC8201,IC7003	Check the communication lines (SCL_AV/SDA_AV).
IIC communication line between AV-SW and MAIN	IC8001,IC7003	Check the communication lines (SCL_AV5/SDA_AV5).
IIC communication line between RGB_SW and MAIN	IC8101,IC7003	Check the communication lines (SCL_AV5/SDA_AV5).
IIC communication line between M_VDEC and MAIN	IC4702,IC7003	Check the communication lines (SCL_MB/SDA_MB).
IIC communication line between VDEC and SDRAM	IC4702,IC4802	Check the communication lines (SDRAM). Defective SDRAM
IIC communication line between ADC and MAIN	IC4801,IC7003	Check the communication lines (SCL_AV/SDA_AV).
IIC communication line between HDML_RX and MAIN	IC4901,IC7003	Check the communication lines (SCL_MB/SDA_MB).
IIC communication line between COFDEM and MAIN	IC5401,IC7003	Check the communication lines (SCL_AV/SDA_AV).
Communication line between IF and MAIN	IC6811,IC7003	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF).
Dirt attached to the fan motor		Check the fan. (SD10 does not detect it at the temperature that fans do not turn.)
Periphery of the FAN CONNECT Assy		FAN NG
Periphery of the cable between FA1 and FA3		Check if cables are firmly connected.
Periphery of the fan control regulator	IC4303	Check that the voltage outputs it.
Ambient temperature		TEMP2 A shutdown occurs because of high temperature.
Temperature sensor or its periphery	TH7891	TEMP2
Periphery of the cable between IO4 and M13	CN7504,CN4004	Check if cables are firmly connected.
Startup of BCM7404	IC6001	Check the startup of the BCM7404 and the communication line with MAIN.
RST2 V+3_4V_ACT2, V+3_3V_D3	IC7002	Check if each voltages are started.
RST4 V+12V, V+6_5V, V+5_1V, V+3_4V_D	IC7002	Check if each voltages are started.
RST4 V+12V, V+6_5V, V+5_1V, V+3_4V_D	POWER SUPPLY Unit	Check if each voltages are started.
Check the cables M2 and M3.	CN4207, CN4210	Check if cables are firmly connected.
IIC communication line between EEPROM and MAIN	IC7004, IC7003	Check the communication lines (SCL_EP/SDA_EP)
Antenna supply power	IC4304	Check the IC4304 and periphery device.

5.5 NON-FAILURE INFORMATION

[1] INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE

Symptom	Cause, item to check, information
HDMI: Symptoms concerning the input format and settings	
The picture color for an INPUT 1 or 3 or 4 signal is not correct.	The color setting for INPUT 1 or 3 or 4 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB.
The video signal to INPUT 1 or 3 or 4 is not displayed, and a message is displayed.	A unsupported video signal is input.
The audio signal input to the INPUT 1 or 3 is not output. No HDMI signal is input.	The audio setting for INPUT 1 or 3 is any setting, and a video signal is not input. If the audio setting is any setting, to output an analog audio signal, the HDMI signal must be input. (If a DVI device is to be connected, use a DVI-HDMI conversion cable.) If the HDMI video signal is not input, the analog audio signal is not output.
No sound of signals to INPUT 1 or 3 or 4 is output.	The setting on the side of the HDMI output equipment is wrong. Example: Dolby Digital
The 1080p input signal is not displayed properly or at all, although the 1080i input signal is displayed properly.	Check that the connected cable supports HDMI Category 2. (As the clock frequency for the 1080p signal is triple that for the 1080i signal, signal degradation caused by a cable must not be neglected. A cable supporting HDMI Category 2 can be used for the 1080p signal. Although some conventional cables can support the 1080p signal, some others cannot.)
SCART video output	
The video output signal from the SCART connector is deteriorated. Or when the video output signal from the SCART connector is recorded, its playback picture is deteriorated.	The video signal output from the SCART connector is Macrovision protected.
The video signal is not output when the component signal is input to INPUT 2.	The video signal is not output from the SCART connector when the component signal is selected.
The video signal is not output when the video signal is input to INPUT 1 or 3 or 4.	The video signal is not output from the SCART connector when the HDMI signal is selected.
AUDIO OUT and SCART	
The image displayed on the PDP is not synchronized with the sound from the SCART.	The audio signal from the SCART connector is synchronized with the video output signal from the SCART connector. And the audio signal from the AUDIO OUT is synchronized with the video signal that is currently displayed.
DIGITAL OUT	
Playback of the signal from the DIGITAL audio output connector is possible, but recording is not possible.	The video signal output from the DIGITAL connector is copy-protected.
The digital audio output signal from the DIGITAL connector is not synchronized with that from the SCART video output.	The digital audio output signal from the DIGITAL connector is synchronized with the video signal that is currently displayed, and not with the SCART video output.
Miscellaneous	
The no-signal off function is not activated.	The no-signal off and no-operation off functions are effective only if video (composite, S video, component, HDMI [excluding PC]) input or TV input is selected.
The no-operation off function is not activated.	
Power management does not function.	Power Management is effective only while an analog PC signal is being input. It is not effective with HDMI-PC signal input.
The AUTO SETUP function is not activated.	The Auto Setup function is effective only while an analog PC signal is being input. This function does not work if an analog PC signal is not input, even if the INPUT PC is selected.
Control via the SR connector is not possible.	Wrong connection of the cable to the PC INPUT (AUDIO) connector is suspected.
The audio signal from the PC is not output.	Wrong connection of the cable to the SR connector is suspected.
The picture-quality setting (AV Selection) is not stored.	The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored.
The picture size changes arbitrary.	The Auto Size setting is set to ON.
The display position of the screen changes slightly while the screen is on.	The orbiter function for minimizing the effects of phosphor burn is activated. Although the setting for this function can be changed on the Home menu, retaining the factory setting is strongly recommended.
The video signal to the S video connector is not displayed.	As the signal input to the connector that has been selected on the INPUT SELECT submenu of the Home menu is selected (this does not apply to the connectors located on the side of the unit), check the menu setting. If the output signal is not available even if the input signal is properly selected, input a signal to other input functions, check the connecting cables, or check the settings for the connected equipment.
The video signal to the composite video connector is not displayed.	

SUPPLEMENT: On the video setting for HDMI

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.

(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)

It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.

In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVI, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

[2] FUNCTION OF DECREASING THE BRIGHTNESS LEVEL

If the panel temperature becomes high or a video signal that requires activation of panel protection is input, the unit will protect the panel by decreasing the brightness level.

* While a mask is being displayed, the panel protection function will not be activated.

Protection Function Name	Purpose	Conditions	Protection Function	Remarks
High-temperature protection function 1	For protection of parts (DCF)	Panel temperature (TEMP1) reaches 65 °C.	Offsetting the ABL adjustment value	
High-temperature protection function 2	For reducing heating in the unit	Panel temperature (TEMP1) reaches 80 °C.	Limiting for the maximum number of SUS pulses	
Panel protection function 1	For preventing burn-in	A still image is displayed for 3 minutes or more.	Limiting for the maximum number of SUS pulses	The picture will be considered to be still if only the mouse cursor is moved.
Panel protection function 2	For protection of SCAN ICs	An image with which a particular load is applied to one SCAN IC is displayed. (See Fig. 2)	Limiting for the maximum number of SUS pulses	
Panel protection function 3	For protection against panel cracking	An image with which the heat of part in the panel is increased is displayed. (See Fig. 3)	Limiting for the maximum number of SUS pulses	

■ Limiting for the maximum number of SUS pulses

By gradually decreasing the limit for the maximum number of SUS pulses, the temperature of the panel will be lowered.

- The limit for the maximum number of SUS pulses will be decreased by 8 per 5 seconds.
- The lower limit for the maximum number of SUS pulses is about 700.
- The maximum number of SUS pulses will begin to increase gradually if the conditions that led to activation of the protection function return to normal.

■ ABL adjustment value offset

By gradually offsetting the ABL adjustment value, the temperature of the panel will be lowered. The number of SUS pulses, which is determined based on the input APL (average picture level), will be decreased.

- The ABL adjustment value will be offset by one step per 30 seconds.
- The ABL adjustment value will be gradually restored if conditions that led to activation of the protection function return to normal.

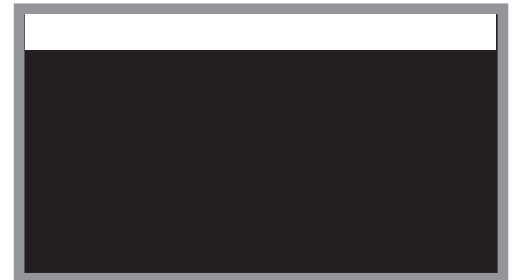


Fig. 2: Detection example: SCAN IC protection

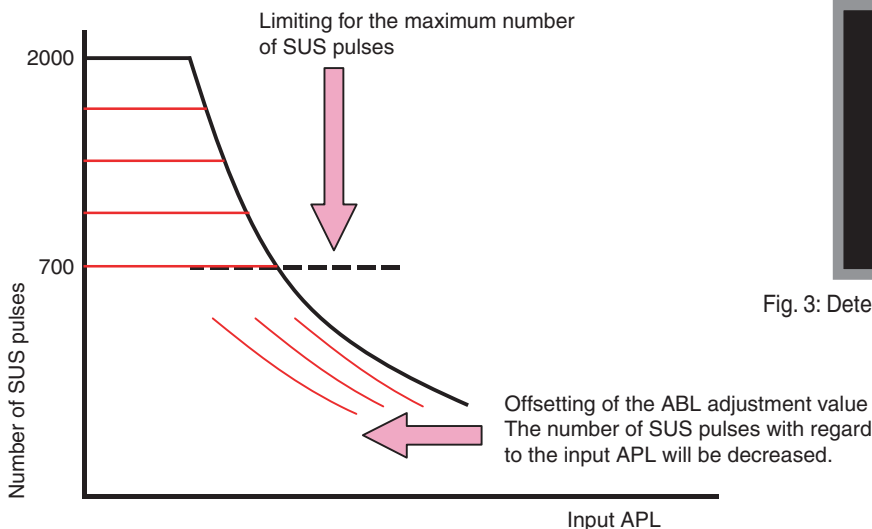


Fig. 1: Relationship between input APL and number of SUS pulses



Fig. 3: Detection example: Protection against panel cracking

5.6 OUTLINE OF THE OPERATION

[1] PANEL DRIVE-POWER ON/OFF FUNCTION

Function:

It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (Vsus, VAddress) in order to avoid a power down (PD).

Application:

1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the panel drive-power supply or with the other system power supply.

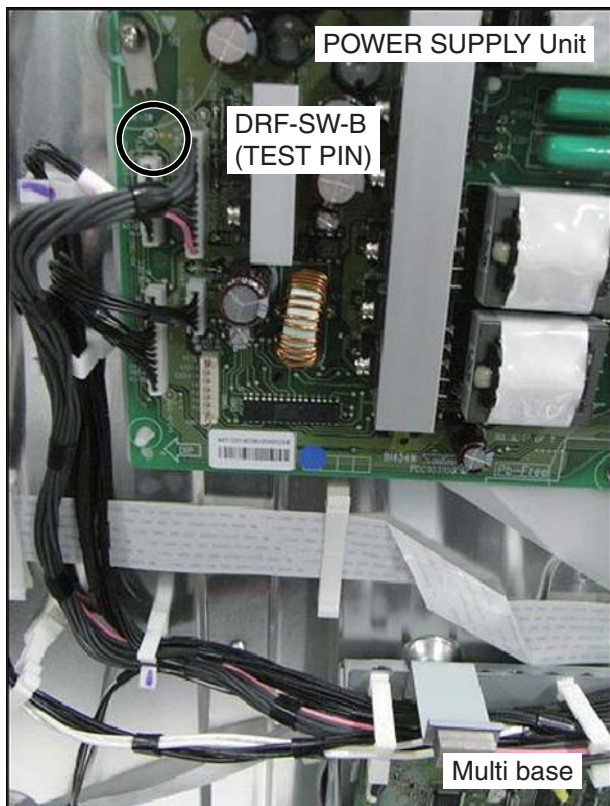
Method:

1. Short-circuit between the specified location of the POWER SUPPLY Unit and GND (Multi base section recommended), using a jumper with alligator clips (refer to the photos below).
2. Execute [DRV S00] by RS-232C command. ([DRV S01] for release)

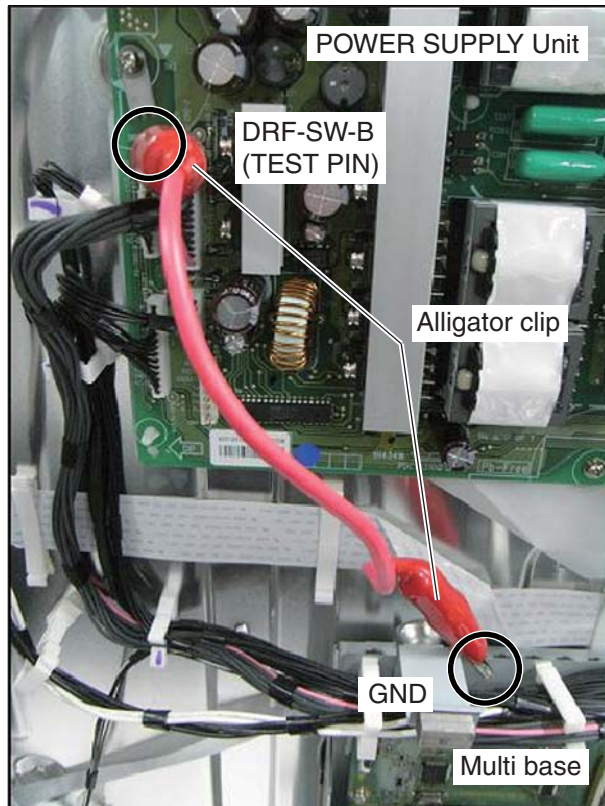
Supplemental explanation:

- When the panel drive-power is in OFF state, there will be no PD, except PS_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the panel drive-power, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS-232C command control, [DRV S01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- Command [DRV S00/S01] is effective even during standby.
- Setting with RS-232C commands or the remote control unit is enabled during Standby mode. However, if the unit is left unoperated for about 10 seconds in Standby mode after setting with RS-232C commands or the remote control unit is completed, the setting will become void.
- When the main power switch is set to OFF, no command is accepted.
- Setting with RS-232C commands or the remote control unit will become void if the AC power cord is unplugged, the main power switch is set to OFF, or the unit is left unoperated for about 10 seconds in Standby mode.

When the panel drive-power is ON



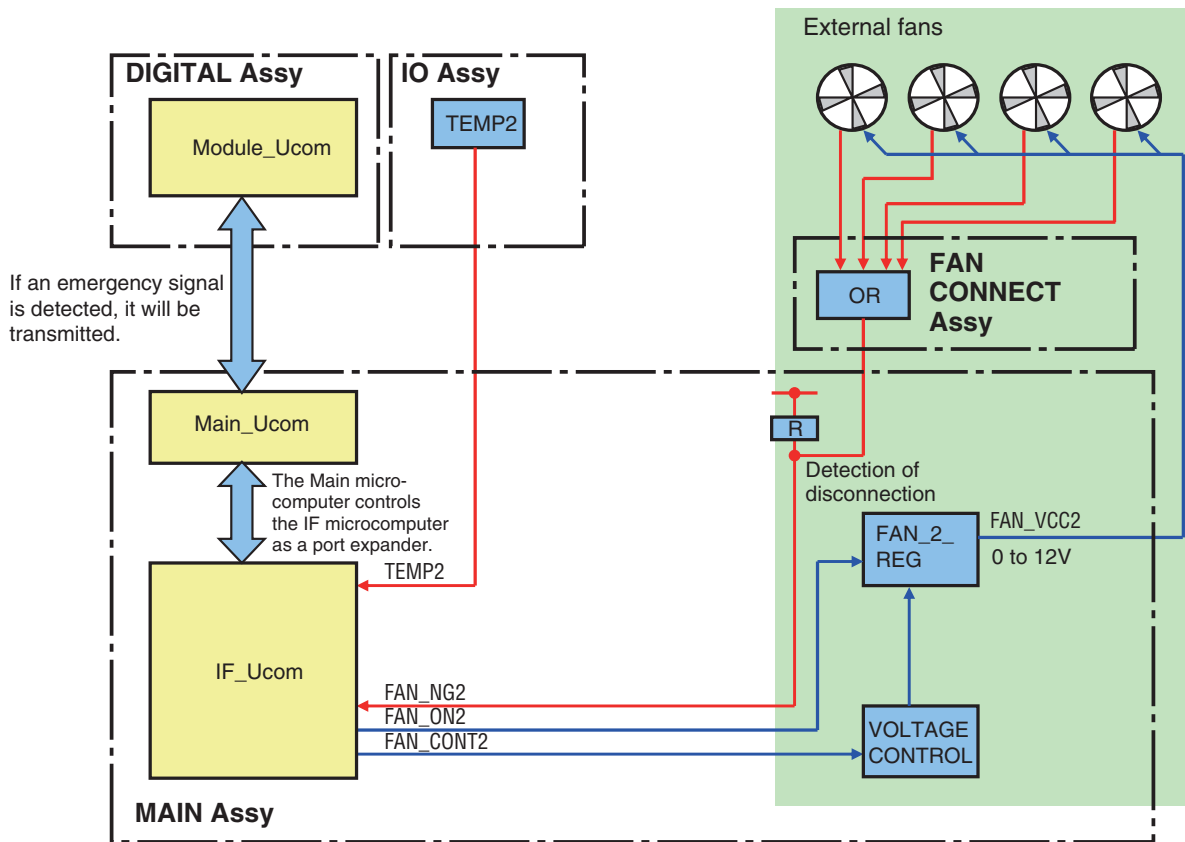
When the panel drive-power is OFF



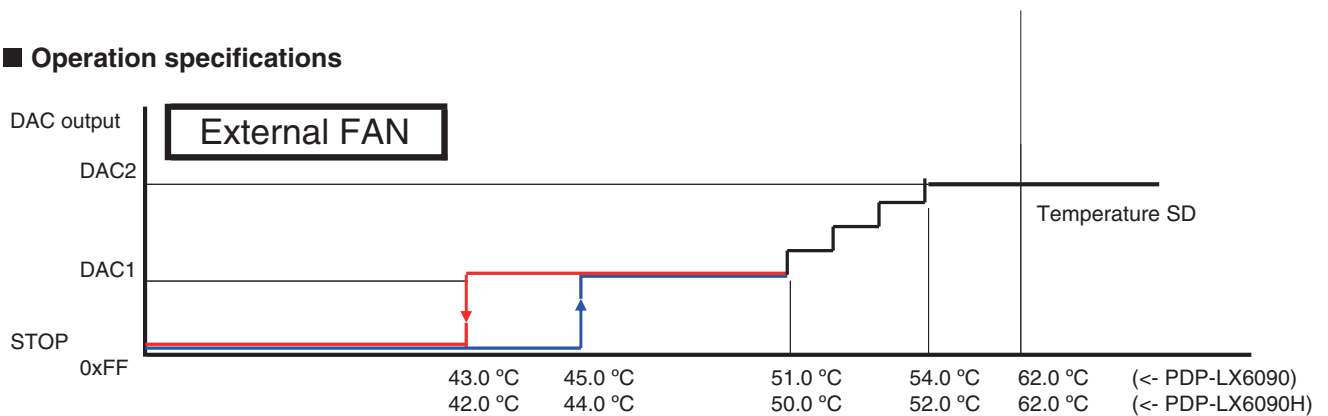
[2] SPECIFICATION OF THE FAN CONTROL

■ Block diagram

The external fans cool down the whole unit.



■ Operation specifications



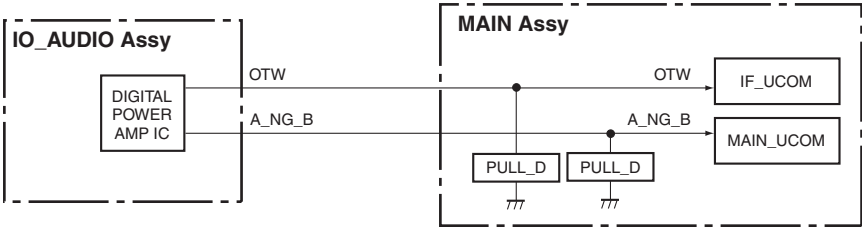
Notes:

- The operating temperature of the fan is higher than the ambient temperature, because the sensor temperature is read by the microcomputer.
- If the critical values for signals are displayed in the address circuit, the fan may be activated or be rotated at higher speed in response to values lower than the set temperature values shown above.
- When the temperature rises, the sensor voltage of TEMP2 decreases.
- When the voltage of the DAC output for external FAN decreases, rotation speed of FAN rises.

A [3] PROCESSING IN ABNORMALITY

Speaker short-circuit

● Circuit configuration



● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
A_NG_B	AUDIO	Shutdown occurs when the signal is "L." 30 mS * 10 times	RST4 = "H" (always) (Monitoring starts 2 sec after the above conditions are established.)	The main CPU operations described below will be performed when either "A_NG_B = L" or "OTW = L" is detected (established) under the monitoring conditions.
OTW	AUDIO	Shutdown occurs when the signal is "L." 120 mS * 3 times		

● Operation specifications of the main CPU

- (1) Establish the short-circuit of the speaker by the main CPU

• After a warning indication is displayed for 5 sec, a shutdown is generated (the blue LED flashes 5 times).

• A warning indication is displayed for all input-signal types.

• Example of a warning indication: "The speaker terminals are short-circuited. After reconnection, turn the unit on again."

- (2) Display conditions

When the panel is on: A warning indication is displayed immediately.

When the panel is off: A warning indication is not displayed immediately but is displayed when the panel is turned on.

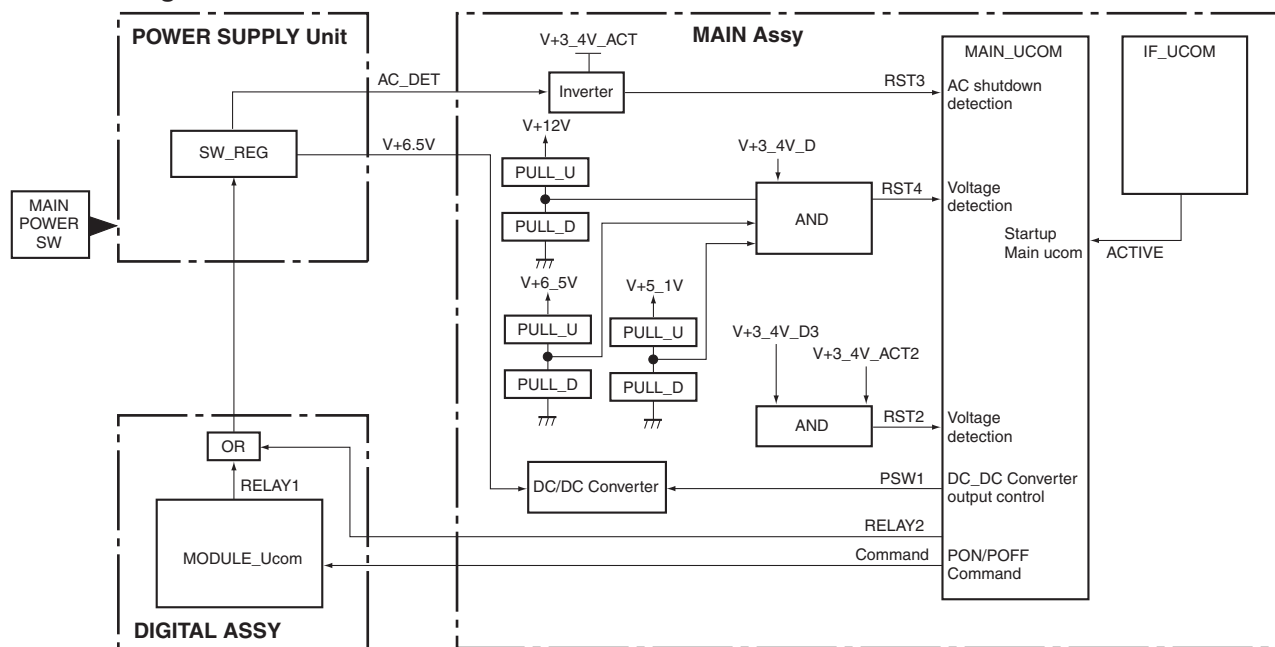
Note: A warning indication is displayed each time the panel is turned on if the conditions for a shutdown persist.

● Conditions for resetting the circuits

The circuits will be reset upon Standby ON/OFF.

Power supply and DC-DC converter

● Circuit configuration

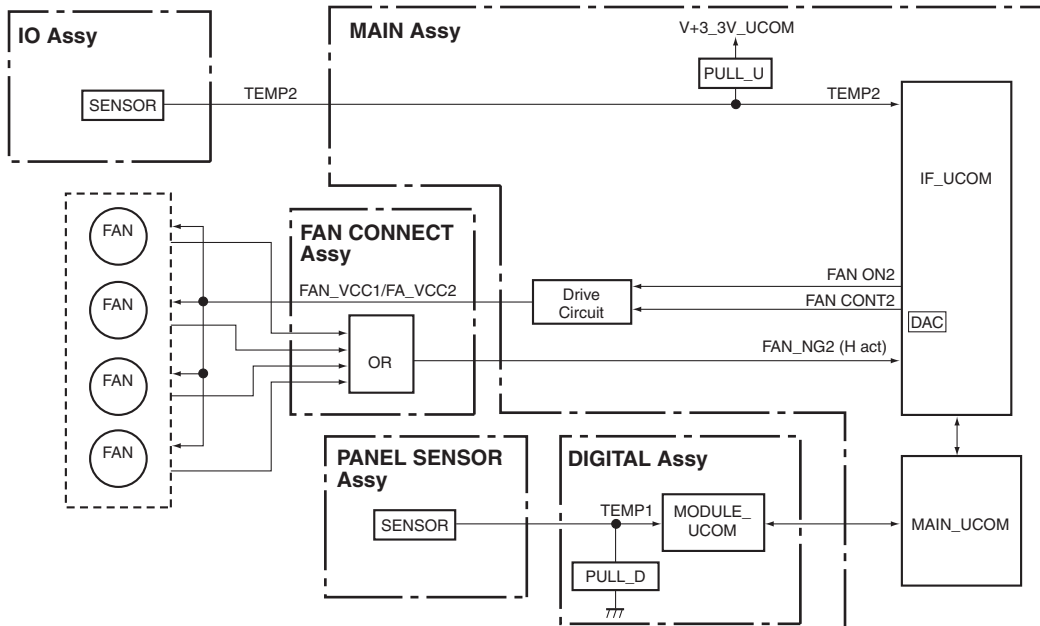


● Specifications for port monitoring

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
RST2	ASIC power (M-DCDC)	Shutdown occurs when the signal is "L." for 5 sec after PSW1 is ON. or for 2 sec while the unit is ON.	<ul style="list-style-type: none"> Panel screen ON (RST4 = H and PSW1 = H) While awaiting restoration of RST2 (RST2 = L) 	Shutdown occurs immediately Blue LED flashes 13 times
RST3	AC power	AC_OFF when the signal is "H."	Excepting passive standby	If "RST3 = H" (AC_OFF) is detected under the monitoring conditions, a power-off process starts. Monitoring of the RST3 port is continued, while monitoring of other ports is interrupted. Communication is controlled only by the IF microcomputer. The port outputs are set as specified. If the signal at the RST3 port continues to be H after 30 mS of waiting, monitoring is continued. If RST3 is L, a restoration process starts according to the latest power-on/-off status.
RST4	MAIN power (RELAY)	Shutdown occurs if the signal is "L." for 5 sec after RELAY2 is ON. or for 2 sec while the unit is ON or in Functional STB.	RELAY2 = ON (High)	Shutdown occurs immediately Blue LED flashes 13 times

C

● Circuit configuration

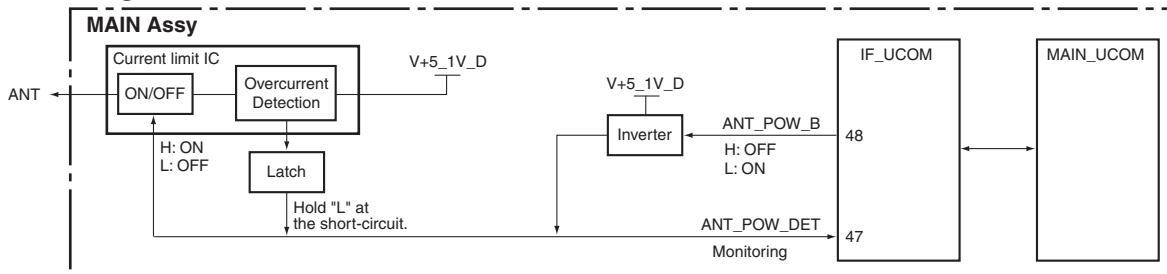


D

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
FAN_NG2	FAN	Shutdown occurs when the signal is "H." 1 S * 3 times	RST2 = H and FAN_ON2 = H (Monitoring starts 3 sec after the above conditions are established.)	Shutdown occurs immediately Blue LED flashes 10 times
TEMP2	High temperature at MTB	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 1 S * 3 times	RST4 = H (Monitoring starts 1 sec after the above conditions are established.)	In the Panel screen ON: Shutdown occurs after the warning indication is displayed for 30 sec. In the Functional STB: Shutdown occurs immediately Blue LED flashes 11 times
TEMP1	Panel temperature is high	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 200 mS * 5 times (average)	Digital video RST2 = H	Shutdown occurs after waiting for 30 sec. Blue LED flashes 4 times
	Panel temperature is low			Shutdown occurs after waiting for 3 sec. Blue LED flashes 4 times

F

E



80

Port Name	SD/PD Indication	Active	Monitoring conditions	Operation
ANT_POW_DET	DTB antenna short-circuited	Warning message is displayed when the signal is L (100 mS, 3 times)	RST4 = H and ANT_POW_B = L	If "ANT_POW_DET = L" is detected (established) under the monitoring conditions, an SD log is created and the warning message is displayed for 60 sec. A shutdown process is not performed in the power system.

5.7 OUTLINE OF RS-232C COMMAND

[1] PREPARED TOOLS

- It is necessary to prepare the following one to use 232C command.
- PC
 - Application for control
 - 232C cable (straight)
- * The setting of the Com port cannot be communicated if it doesn't do correctly.
(Please follow a set explanation of PC in the Com port)

[2] USING RS-232C COMMANDS

Individual ports are provided for RS-232C and SR+ connectors with this model. Therefore, unlike the case of previous models, which required switching of exclusive operation between these connectors on the Integrator menu, switching is no longer required.

5.8 LIST OF RS-232C COMMANDS

RS-232C commands can be used in Service Factory mode. Before using RS-232C commands, it is necessary to change the factory presetting. See "5.7 OUTLINE OF RS-232C COMMAND".
[Note ; If you want to see version information (ex. QS1, QSE, Factory, Menu), Please see 10 seconds after starting.]

RS-232C command list

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
A							
ABL	***	Adjusting the upper limit of the power	●		MOD	●	
AMT	S00	Audio mute OFF		●			
	S01	Audio mute ON		●			
AP0	S**	ADDRESS L1, L2 setting	●		MOD	●	Note 1
AP1	S**	ADDRESS L3, L4 setting	●		MOD	●	Note 1
AP2	S**	ADDRESS U1, U2 setting	●		MOD	●	Note 1
AP3	S**	ADDRESS U3, U4 setting	●		MOD	●	Note 1
APN	***	1V average pulse number setting	●		MOD	●	
B							
BCP		Copying the backup data in the EEPROM	●		MOD	●	
BSM	S00	After image/Burning safe mode: OFF	●				
	S01	After image/Burning safe mode: ON	●				
C							
CHN	FWD	Changing tuner preset channel (1 step forward)		●			
	REV	Changing tuner preset channel (1 step reverse)		●			
CBU		Clearing backup data of EEPROM	●		MOD	●	
CHM		Clearing data of the hour meter	●	●	MOD	●	
CHR		Clearing data of the hour meter of MTB/MR side		●			Clear the hour meter of screen display of MAIN NG
CMT		Clearing data of the maximum temperature	●		MOD	●	
CNG		Clearing shutdown history of MTB/MR side		●			
CPC		Clearing power-on count data	●		MOD	●	
CPD		Clearing power-down history	●		MOD	●	
CPM		Clearing data of the pulse meter	●		MOD	●	
CSD		Clearing shutdown history of Panel side	●		MOD	●	
CSF	S00	Color sensor function OFF	●				
	S01	Color sensor function ON	●				
CSM	S01	Color space mode 1: Pioneer original	●				
	S02	Color space mode 2: EBU standard conformity	●				
CSB	***	Blue coefficient of color sensor	●		MOD	●	
CSG	***	Green coefficient of color sensor	●		MOD	●	
CSR	***	Red coefficient of color sensor	●		MOD	●	
CTP	S00	Color temperature switch OFF	●				
	S01	Color temperature switch LOW setting	●				
	S02	Color temperature switch MID LOW setting	●				
	S03	Color temperature switch MID setting	●				
	S04	Color temperature switch MID HIGH setting	●				
	S05	Color temperature switch HIGH setting	●				
D							
DIZ	S00	Dither/L dither OFF & noise OFF	●			●	
	S01	Dither/L dither ON & noise ON	●			●	
	S02	Dither/L dither OFF & noise ON	●			●	
	S03	Dither/L dither ON & noise OFF	●			●	
DRV	S00	Panel drive-power OFF	●				
	S01	Panel drive-power ON	●				
DW*		To subtract * to the adjustment value (* = 0 to 9, subtract 10 with DW0 and set to minimum value with DWF)		●			

Note 1: It is necessary to turn off the power for reflecting the setting change.

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
F							
FAJ		Determining the flag of the DIGITAL Assy adjustment in "adjustment is completed"	●		MOD	●	
FAN		Factory mode OFF	●	●		●	
FAY		Factory mode ON	●	●			
FBM	S00	OFF (In-phase SUS drive prohibition)	●		MOD	●	Note 1
	S01	MODE1 (In-phase SUS drive permission)	●		MOD	●	Note 1
FST	S32	Set each memory setting of MTB/MR side to the shipment state.		●		●	PDP-LX6090H only
	S34	Set each memory setting of MTB/MR side to the shipment state.		●		●	PDP-LX6090 only
I							
INA	***	Switching the terrestrial analog signal, direct tuning (***: channel number)		●	MAIN		
		Switching the terrestrial analog signal (Channnel is in the last.)		●	MAIN		
INC	***	Switching the terrestrial digital signal, direct tuning (***:channel number)		●	MAIN		
		Switching the terrestrial digital signal (Channnel is in the last.)		●	MAIN		
IND	***	Switching the satellite digital signal, direct tuning (***:channel number)		●	MAIN		
		Switching the satellite digital signal (Channnel is in the last.)		●	MAIN		
INH	***	Switching the Home Media Gallery / Home Gallery		●			
INP	S01	Input switch: INPUT 1		●	MAIN		
	S02	Input switch: INPUT 2		●	MAIN		
	S03	Input switch: INPUT 3		●	MAIN		
	S04	Input switch: INPUT 4		●	MAIN		
	S05	Input switch: INPUT 5		●	MAIN		
	S06	Input switch: INPUT 6 (PC)		●	MAIN		
M							
MIR	S00	Mirror display mode: OFF	●				
	S01	Mirror display mode: Right and left inversion	●				
	S02	Mirror display mode: Top and bottom inversion	●				
	S03	Mirror display mode: Top and bottom and right and left inversion	●				
MKC	S00	MASK OFF	●		MOD		
	S01	H ramp (slant 1) M	●		MOD	●	
	S02	H ramp (slant 4) M	●		MOD	●	
	S03	Slanting ramp M	●		MOD	●	
	S04	30 for aging	●		MOD	●	
	S05	05 for aging	●		MOD	●	
	S06	Erasing afterimage 1	●		MOD	●	
	S07	Erasing afterimage 2	●		MOD	●	
	S08	White (change in luminance level)	●		MOD	●	
	S09	PEAK detection raster	●		MOD	●	
	S10	Address lack check	●		MOD	●	
	S11	Green vertical line scroll	●		MOD	●	
	S12	Green horizontal line scroll	●		MOD	●	
	S13	Vertical ramp vertical scroll (white)	●		MOD	●	
	S14	Vertical ramp vertical scroll (green)	●		MOD	●	
	S15	Horizontal ramp horizontal scroll (white)	●		MOD	●	
	S16	Horizontal ramp horizontal scroll (green)	●		MOD	●	
S17	Cross hatch + window	●		MOD	●		
MKS	S00	MASK OFF	●		MOD		
	S01	H ramp (slant 1)	●		MOD	●	
	S02	H ramp (slant 4)	●		MOD	●	

Note 1: It is necessary to turn off the power for reflecting the setting change.

A

B

C

D

E

F

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
M							
MKS	S03	V ramp (slant 1)	●		MOD	●	
	S04	Slanting ramp	●		MOD	●	
	S05	Window (Hi= 870, Lo= 102)	●		MOD	●	
	S06	Window (Hi= 1023, Lo= 102)	●		MOD	●	
	S07	Window (Hi= 1023, Lo=000)	●		MOD	●	
	S08	Window (Hi= 1023) 4 %	●		MOD	●	
	S09	Window (Hi= 1023) 1.25 %	●		MOD	●	
	S10	Window (1/7 LINE)	●		MOD	●	
	S11	STRIPE (MGT/GRN)	●		MOD	●	
	S12	STRIPE (GRN/MGT)	●		MOD	●	
	S13	B & W, checker (1 line)	●		MOD	●	
	S14	B & W, checker (2 lines)	●		MOD	●	
	S15	B & W, checker (4 lines)	●		MOD	●	
	S16	B & W, checker (8 lines)	●		MOD	●	
	S17	COLOR BAR	●		MOD	●	
	S18	Slanting lines	●		MOD	●	
	S19	Red & black, checker (1 line)	●		MOD	●	
	S20	Red & black, checker (2 lines)	●		MOD	●	
	S21	Red & black, checker (4 lines)	●		MOD	●	
	S22	Red & black, checker (8 lines)	●		MOD	●	
	S23	Erasing afterimage (RGB: zigzag, V: reverse)	●		MOD	●	
	S24	Black raster (max SUS pulses)	●		MOD	●	Note 5
	S25	1 for perfect linear	●		MOD	●	
	S26	2 for perfect linear	●		MOD	●	
	S27	3 for perfect linear	●		MOD	●	
	S28	4 for perfect linear	●		MOD	●	
	S29	RGB checker 1	●		MOD	●	
	S30	RGB checker 2	●		MOD	●	
	S31	Window RED (RED=1023)	●		MOD	●	
	S32	Window GREEN (GREEN=1023)	●		MOD	●	
	S33	Window BLUE (BLUE=1023)	●		MOD	●	
	S34	Even line horizontal stripes	●		MOD	●	
	S35	Odd line horizontal stripes	●		MOD	●	
	S36	Afterimage check 1	●		MOD	●	
	S37	Afterimage check 2	●		MOD	●	
	S38	Afterimage check 3	●		MOD	●	
	S39	Afterimage check 4	●		MOD	●	
	S40	Red single-color slanting ramp	●		MOD	●	
	S41	GREEN single-color slanting ramp	●		MOD	●	
	S42	BLUE single-color slanting ramp	●		MOD	●	
	S43	For panel light check 1	●		MOD	●	
	S44	For panel light check 2	●		MOD	●	
	S45	5 for perfect linear	●		MOD	●	
	S46	6 for perfect linear	●		MOD	●	
	S47	7 for perfect linear	●		MOD	●	
	S48	8 for perfect linear	●		MOD	●	
	S49	Mask for ABL adjustment	●		MOD	●	

Note 5: Peak luminance detection function (PKD) modification is impossible.

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
MKR	S00	MASK OFF	●		MOD		
	S01	Raster - White	●		MOD	●	
	S02	Raster - Red	●		MOD	●	
	S03	Raster - Green	●		MOD	●	
	S04	Raster - Blue	●		MOD	●	
	S05	Raster - Black	●		MOD	●	
	S06	Raster - Cyan	●		MOD	●	
	S07	Raster - Magenta	●		MOD	●	
	S08	Raster - Yellow	●		MOD	●	
	S09	Raster - Light purple	●		MOD	●	
	S10	Raster - Pink	●		MOD	●	
	S11	Raster - Yellow egg color	●		MOD	●	
	S12	Raster - Light blue	●		MOD	●	
	S13	Raster - Beige	●		MOD	●	
	S14	Raster - Red 996+	●		MOD	●	
	S15	Raster - Red 1023+	●		MOD	●	
	S16	Raster - Green 1023+	●		MOD	●	
	S17	Raster - Blue 1023+	●		MOD	●	
	S18	Raster - Red 626+	●		MOD	●	
	S19	Raster - Green 718+	●		MOD	●	
	S20	Raster - Blue 626+	●		MOD	●	
	S21	Raster - Gray 120	●		MOD	●	
	S22	Raster - Cyan 169	●		MOD	●	
	S23	Raster - Magenta 169	●		MOD	●	
	S24	Raster - Yellow 169	●		MOD	●	
	S25	Raster - Gray 307	●		MOD	●	
MSE	S00	Product form : one body/monitor model	●		MOD	●	Note 1
	S01	Product form : System model	●		MOD	●	Note 1
MST	S00	Display one screen		●			
	S01	PsideP (Main size: normal)		●			
	S02	PinP (Right down)		●			
	S03	PinP (Right up)		●			
	S04	PinP (Left down)		●			
	S05	PinP (Left up)		●			
	S08	SWAP (Exchanging sub-screen)		●			
N							
NGP	S00	Negative positive inversion: OFF	●				
	S01	Negative positive inversion: ON	●				
O							
OSD	S00	OSD display setting: OFF		●	MAIN		
	S01	OSD display setting: ON		●	MAIN		
P							
PAV	S00	AV selection: FACTORY	●				
	S01	AV selection: STANDARD / PERFORMANCE	●				
	S02	AV selection: DYNAMIC	●				
	S03	AV selection: MOVIE	●				
	S04	AV selection: GAME	●				
	S05	AV selection: SPORT	●				
	S06	AV selection: PURE	●				
	S07	AV selection: USER	●				

Note 1: It is necessary to turn off the power for reflecting the setting change.

A

Command Name	Function		Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
P							
PAV	S08	AV selection: isf-DAY	●				
	S09	AV selection: isf-NIGHT	●				
	S10	AV selection: OPTIMUM	●				
	S11	AV selection: isf-AUTO	●				
	S12	AV selection: Standard	●				
	S13	AV selection: Reserved (Australian standard)	●				
PBH	***	Panel white balance adjustment - Blue highlight	●		MOD	●	
PBL	***	Panel white balance adjustment - Blue low light	●		MOD	●	
PBX	***	Panel Bx measuring value	●		MOD	●	
PBY	***	Panel By measuring value	●		MOD	●	
PCS	S00	Normal operation	●				
	S01	Catalog specification operation	●				
PDM	S00	Passing PD signals to the POWER SUPPLY Unit => Power-down	●				
	S01	Not passing PD signals to the POWER SUPPLY Unit => No power-down	●				
PES	S00	For general-purpose commonness: Standard	●				
	S01	For general-purpose commonness: Energy saving 1	●				
	S02	For general-purpose commonness: Energy saving 2	●				
	S10	For general-purpose Japan standard: Standard	●				
	S11	For general-purpose Japan standard: Energy saving 1	●				
	S12	For general-purpose Japan standard: Energy saving 2	●				
PFL	S**	Center luminance correction	●				
	S00	Peripheral luminance correction: OFF	●				
	S01	Peripheral luminance correction: ON fixed	●				
	S02	Peripheral luminance correction: APL interlocked ON	●				
PFN		Factory mode at panel side: OFF	●			●	
PFS		Setup the panel side to shipment	●		MOD	●	
PFY		Factory mode at panel side: ON	●				Note 2
PGB	S00	Blue gamma setting: Straight	●				
	S01	Blue gamma setting: Fixed on 1.6	●				
	S02	Blue gamma setting: Fixed on 1.7	●				
	S03	Blue gamma setting: Fixed on 1.8	●				
	S04	Blue gamma setting: Fixed on 1.9	●				
	S05	Blue gamma setting: Fixed on 2.0	●				
	S06	Blue gamma setting: Fixed on 2.1	●				
	S07	Blue gamma setting: Fixed on 2.2	●				
	S08	Blue gamma setting: Fixed on 2.3	●				
	S09	Blue gamma setting: Fixed on 2.4	●				
	S10-31	Blue gamma setting: Customize	●				
	PGG	S00	Green gamma setting: Straight	●			
S01		Green gamma setting: Fixed on 1.6	●				
S02		Green gamma setting: Fixed on 1.7	●				
S03		Green gamma setting: Fixed on 1.8	●				
S04		Green gamma setting: Fixed on 1.9	●				
S05		Green gamma setting: Fixed on 2.0	●				
S06		Green gamma setting: Fixed on 2.1	●				
S07		Green gamma setting: Fixed on 2.2	●				
S08		Green gamma setting: Fixed on 2.3	●				
S09		Green gamma setting: Fixed on 2.4	●				
S10-31		Green gamma setting: Customize	●				
PGH		***	Panel white balance adjustment - Green highlight	●		MOD	●

Note 2: Mask setting and the picture quality setting of MTB are not changed.

Command Name	Function		Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
P							
PGL	***	Panel white balance adjustment - Green low light	●		MOD	●	
PGX	***	Panel Gx measuring value	●		MOD	●	
PGY	***	Panel Gy measuring value	●		MOD	●	
PGR	S00	Red gamma setting: Straight	●				
	S01	Red gamma setting: Fixed on 1.6	●				
	S02	Red gamma setting: Fixed on 1.7	●				
	S03	Red gamma setting: Fixed on 1.8	●				
	S04	Red gamma setting: Fixed on 1.9	●				
	S05	Red gamma setting: Fixed on 2.0	●				
	S06	Red gamma setting: Fixed on 2.1	●				
	S07	Red gamma setting: Fixed on 2.2	●				
	S08	Red gamma setting: Fixed on 2.3	●				
	S09	Red gamma setting: Fixed on 2.4	●				
	S10-31	Redt gamma setting: Customize	●				
	PKD	S00	Peak luminance detection: OFF	●			●
S01		Peak luminance detection: ON	●			●	
PKL	S00	No brightness limitation : 100 %	●				
	S01	Brightness limitation 1 : 87 %	●				
	S02	Brightness limitation 2 : 73 %	●				
	S03	Brightness limitation 3 : 60 %	●				
	S04	Brightness limitation 4 : 52 %	●				
	S05	Brightness limitation 5 : 40 %	●				
	S06	Brightness limitation 6 : 27 %	●				
	S07	Brightness limitation 7 : 13 %	●				
PMT	S00	Canceling panel muting	●				Note 3
	S01	Panel muting	●				
POF		Power OFF	●	●	MAIN		
PON		Power ON	●	●	MAIN		
PPT	S00	Panel protection function: OFF	●			●	
	S01	Panel protection function: ON	●			●	
PRH	***	Panel white balance adjustment - Red highlight	●		MOD	●	
PRL	***	Panel white balance adjustment - Red low light	●		MOD	●	
PRX	***	Panel Rx measuring value	●		MOD	●	
PRY	***	Panel Ry measuring value	●		MOD	●	
PUC	S00	Pure cinema: OFF		●	MAIN	●	
	S01	Pure cinema: Standard		●	MAIN	●	
	S02	Pure cinema: Advance		●	MAIN	●	
	S03	Pure cinema: Smooth		●	MAIN	●	
Q							
QAJ		Acquiring various adjustment values of the panel side	●				
QMT		Acquiring temperature of MTB/MR side and Fan speed		●			
QNG		Acquiring shutdown information of MTB/MR side		●			
QPD		Acquiring logs of power-down points	●				
QPM		Acquiring data of the pulse meter	●				
QPW		Acquiring panel white balance adjustment values	●				
QPF		Acquiring characteristic / function setting values of the panel side	●				
QS1		Acquiring unit data, such as the software version	●	●			
QS2		Acquiring data on the status of the unit, such as temperature	●				

Note 3: The mute is unable while displaying the internal mask.

A

Command Name	Function		Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
Q							
QS3		Each information output for panel	●				
QS5		Each information output for panel (individual function)	●				
QSE		Acquiring unit data, such as the software version of MTB/MR side (specific destination)		●			
QSP		Acquiring sub-version of the microcomputer for panel	●				
QSD		Acquiring data on shutdown	●				
QSI		Acquiring data related with signals	●				
R							
R1K	***	First reset (wedge width)	●		MOD	●	
R2K	***	Second reset (wedge width)	●		MOD	●	
RBL	S00-07	BLUE setting for panel degradation correction : Level 0 to 7	●		MOD	●	Note 1
RGL	S00-07	GREEN setting for panel degradation correction : Level 0 to 7	●		MOD	●	Note 1
RLS	S00	Room light sensor operation : OFF	●				
	S01-05	Room light sensor operation : 1 to 5	●				
RRL	S00-07	RED setting for panel degradation correction : Level 0 to 7	●		MOD	●	Note 1
S							
SAT	***	Timing adjustment between the scan and address	●		MOD	●	
SCW	S00	Normal operation	●				
	S01	Draw the warning blue window (left side)	●				
	S02	Draw the warning red window (right side)	●				
SDF	S00	SRS DEFINITION: OFF		●			
	S01	SRS DEFINITION: DEFINITION1		●			
	S02	SRS DEFINITION: DEFINITION2		●			
	S03	SRS DEFINITION: DEFINITION3		●			
SDM	S00	Shutdown enabled	●				
	S01	Shutdown prohibited	●				
SFR	S01-08	Measures against AM radio noise - Pattern 1 to 8	●		MOD	●	Note 1
SKM	S00	STREAKING correction mode OFF	●		MOD	●	
	S01-08	STREAKING correction mode Setting mode 1 to 8	●		MOD	●	
SMC	S00	Smooth clear drive OFF	●			●	
	S01	Smooth clear drive ON	●			●	
SML	***	Adjustment of the side mask level		●	MAIN	●	
SN0	***	Setting of the serial No. 0 (panel)	●		MOD	●	
SN1	***	Setting of the serial No. 1 (panel)	●		MOD	●	
SN2	***	Setting of the serial No. 2 (panel)	●		MOD	●	
SN3	***	Setting of the serial No. 3 (panel)	●		MOD	●	
SN4	***	Setting of the serial No. 4 (panel)	●		MOD	●	
SQM	S01	VIDEO sequence setting	●				
	S02	PC sequence setting	●				
	S03	FILM sequence setting	●				
SRS	S00	SRS: OFF		●			
	S01	SRS: SRS1		●			
	S02	SRS: SRS2		●			
	S03	SRS: SRS3		●			
SSM	S00	SSCG OFF	●			●	
	S01	SSCG ON	●			●	
SWA	***	Estimated value of the illuminant color (absolute value)	●				
SWF	S00	Reflection of the estimated information of the illuminant color: OFF	●				
	S01	Reflection of the estimated information of the illuminant color: ON	●				
SWR	***	Estimated value of the illuminant color (relative value)	●				

Note 1: It is necessary to turn off the power for reflecting the setting change.

Command Name		Function	Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
S							
SZM	S00	Setting the screen size to Dot by Dot		●	MAIN		
	S01	Setting the screen size to 4 :3		●	MAIN		
	S02	Setting the screen size to FULL or FULL 1080i		●	MAIN		
	S03	Setting the screen size to ZOOM		●	MAIN		
	S04	Setting the screen size to CINEMA		●	MAIN		
	S05	Setting the screen size to WIDE or WIDE1		●	MAIN		
	S06	Setting the screen size to FULL 14:9		●	MAIN		
	S07	Setting the screen size to CINEMA 14:9		●	MAIN		
	S11	Setting the screen size to AUTO		●	MAIN		
	S12	Setting the screen size to WIDE2		●	MAIN		
T							
TBS	S00	TRUBASS: OFF		●			
	S01	TRUBASS: TRUBASS1		●			
	S02	TRUBASS: TRUBASS2		●			
	S03	TRUBASS: TRUBASS3		●			
THS	S00	Theater port interlock operation OFF	●				
	S01	Theater port interlock operation ON	●				
U							
UAJ		Determining the flag for the DIGITAL Assy adjustment in "not adjusted"	●		MOD	●	
UP*		To add * to the adjustment value (* = 0 to 9, add 10 with UP0 and set to maximum value with UPF)		●			
V							
V1F	***	Adjustment of the reference value of Vyknofs 1, 2 voltage	●		MOD	●	
V3F	***	Adjustment of the reference value of Vyknofs 3 voltage	●		MOD	●	
V4F	***	Adjustment of the reference value of Vyknofs 4 voltage	●		MOD	●	
VFQ	S02	Setting the frequency in Mask mode to VD-50 Hz	●		MOD	●	
	S03	Setting the frequency in Mask mode to VD-60 Hz	●		MOD	●	
	S05	Setting the frequency in Mask mode to VD-72 Hz	●		MOD	●	
	S06	Setting the frequency in Mask mode to VD-75 Hz-1	●		MOD	●	
	S07	Setting the frequency in Mask mode to VD-75 Hz-2	●		MOD	●	
	S13	Setting the frequency in Mask mode to PC-60 Hz	●		MOD	●	
VOF	***	Adjustment of the reference value of Vysnofs voltage	●		MOD	●	
VOL	UP*, DW*, ***	To adjust the volume		●			Note 4
VRP	***	Adjustment of the reference value of Vyprst voltage	●		MOD	●	
VSU	***	Adjustment of the reference value of Vsus voltage	●		MOD	●	
VX1	***	Adjustment of the reference value of Vxpofs1 voltage	●		MOD	●	
VX2	***	Adjustment of the reference value of Vxpofs2 voltage	●		MOD	●	
VYF	***	Adjustment of the reference value of Δ Vyknofs1, 2/3/4 voltage	●		MOD	●	
W							
WBI	S00	Panel WB standard output mode: OFF	●			●	
	S01	Panel WB standard output mode: ON	●			●	
X							
X1B	***	3SF and later-first XSUS (resonance up width)	●		MOD	●	
X3B	***	2SF-third XSUS (resonance up width)	●		MOD	●	
XSB	***	2SF-repeat XSUS (resonance up width)	●		MOD	●	

Note 4: Use this command by designating the adjustment value *** (=000 to 060).

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Command Name	Function		Active U-com		Last Memory	Effective only in Factory mode	Remarks
			MDU	MTB			
Y							
Y1K	***	1SF-YSUS-Tail (wedge width)	●		MOD	●	
Y1Z	***	1SF-YSUS-Tail (resonance down width)	●		MOD	●	
Y2B	***	2SF-second YSUS (resonance up width)	●		MOD	●	
Y2K	***	2SF-YSUS-Tail (wedge width)	●		MOD	●	
Y2Z	***	2SF-YSUS-Tail (resonance down width)	●		MOD	●	
YNK	***	3SF and later (SSF 2 pulses)-YSUS Tail (wedge width)	●		MOD	●	
YTK	***	3SF and later-YSUS Tail (wedge width)	●		MOD	●	
YTZ	***	3SF and later-YSUS Tail (resonance down width)	●		MOD	●	
YSB	***	2SF-repeat YSUS (resonance up width)	●		MOD	●	
Z							
ZME	***	Initializing the video EEPROM data of the MTB/MR side		●		●	

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5.9 DETAILS OF EACH COMMANDS

[1] QS1 (PANEL STATUS)

Model information and version information are returned.

Command Format	Effective Operation Modes	Function	Remarks
[QS1]	Every Time	Output of status	Return data: 3 (ECO) + 112 (DATA) + 2 (CS) = 117 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS1
1	Resolution/Size	1 byte	F
2	Panel Generation	1 byte	9
3	Destination	1 byte	*
4	Grade	1 byte	*
5	Panel Product Form	1 byte	A
6	Boot version of Module microcomputer	3 byte	-01A
7	Program version of Module microcomputer	8 byte	-01A ' ' ' '
8	Boot version of sequence processor	3 byte	-01Z
9	Program version of sequence processor	8 byte	-01Z ' ' ' '
10	Panel information	8 byte	G9_50F_2
11	Derivative operation identification	1 byte	*
12	Reserved (panel section)	7 byte	*****
13	, (comma)	1 byte	,
14	MTB generation	1 byte	9
15	MTB destination	1 byte	A
16	MTB grade	1 byte	H
17	MTB product form	1 byte	B
18	Program version of IF microcomputer	8 byte	-01A
19	Boot version of IF microcomputer	4 byte	01A
20	Program version of Main microcomputer	8 byte	-01A
21	Boot version of Main microcomputer	4 byte	01A
22	Common version of ASIC	8 byte	-01A
23	Boot version of ASIC	8 byte	01A
24	PRS version of ASIC	8 byte	-01A
25	PIC version of ASIC	8 byte	-01A
26	Common version of the Digital Tuner	8 byte	-0A
27	Boot version of the Digital Tuner	4 byte	01A
CS	2 Byte	2 byte	4A

11: Derivative Operation Identification	
*	Standard model operation
1	Derivative model operation

14: MTB Generation	
9	G9

15: MTB Destination	
A	North America
C	China
E	Europe
G	General
J	Japan
U	Australia

16: MTB Grade	
H	Elite/One body Europe HD /System Europe HD/One body Australia
T	Regular/One body Europe SD
D	Derivative Model
*	No Grade (Japan/General/China)

17: MTB Product Form	
B	One body model
S	System model

1: Resolution/Size	
F	50-FHD (1920*1080)
G	60-FHD (1920*1080)

2: Panel Generation	
9	G9

3: Destination	
*	Commonness

4: Grade	
*	Commonness
Z	Evaluation

5: Panel Product Form	
A	One body/monitor model
S	System model

10: Panel Information (8 Byte)		
1 to 2nd byte	G9	Generation information
4 to 5th byte	50	50 inch
	60	60 inch
6th byte	F	FHD
8th byte	3	50 inch 2nd PLANT (Reserved)
	2	50 inch 2nd PLANT
	1	50 inch 1st PLANT
	'	Others

' = space

A [2] QS2 (PANEL OPERATION DATA)

The command QS2 is for acquiring data on the panel's operational information.

Command Format	Effective Operation Modes	Function	Remarks
[QS2]	Every Time	Output of status	Return data: 3 (ECO) + 34 (DATA) + 2 (CS) = 39 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS2
1	Notify of the standby operation transition	1 byte	1
2	Adjustment flag of the main unit	1 byte	0
3	Adjustment-data backup flag	1 byte	0
4	"1st PD" data	1 byte	0
5	"2nd PD" data	1 byte	0
6	Color sensor data	1 byte	0
7	Reserved	2 byte	**
8	Temperature data (TEMP 1)	3 byte	128
9	SD data	1 byte	0
10	SD subcategory data	1 byte	0
11	Operation status induced by SD	1 byte	0
12	Reserved	3 byte	***
13	HOUR METER	8 byte	00000259
14	MASK indication	1 byte	0
15	Still picture detection	1 byte	0
16	SCAN protection detection	1 byte	0
17	Panel crack detection	1 byte	0
18	Address emergency detection	1 byte	0
19	Reserved	4 byte	****
CS	2 Byte	2 byte	4A

9: SD data

0	No SD
1	SQ_LSI
2	MDU-DEVICE
3	RST2
4	Panel temperature

10-1: SD subcategory (SQ_LSI)

0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (H/M)
6	Version mismatching (H/I)

10-2: SD subcategory (MDU-DEVICE)

0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

10-3: SD subcategory (Panel temperature)

0	No SD-Sub data
1	Panel high temperature
2	Panel low temperature

11: Operation status induced by SD

0	Normal
1	Relay-off completed
2	During warning indication

14: MASK indication

0	MASK-OFF
1	MASK-ON

15 to 18: Detection of Each Protection function

0	Normal operation
1	At detection of protection operation

1: Power supply status

P	During power ON
0	Shifting to Passive Standby is not possible.
1	Shifting to Passive Standby is possible.

2: Adjustment flag of the main unit

0	Adjustment completed
1	Adjustment not completed

3: Adjustment-data backup flag

0	Adjustment completed
1	Adjustment not completed

4, 5: PD data

0	No PD data
2	POWER
3	SCAN
4	SCN-5V
6	Y-DCDC
7	Y-SUS
8	ADRS
A	X-DCDC
B	X-SUS
C	DIG-DCDC
F	UNKNOWN

6: Color sensor data

-	Function OFF (including standby)
0	Normal
1	Hardware connection is not completed
2	Data mismatching

[3] QS3 (OTHER DATA ON THE PANEL)

The command QS3 is for acquiring data on operational information of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QS3]	Every Time	Output of status	Return data: 3 (ECO) + 58 (DATA) + 2 (CS) = 63 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS3
1	SERIAL	15 byte	-----
2	HOURLY METER	8 byte	00000000
3	TOTAL HR METER	8 byte	00000000
4	PON COUNTER	8 byte	00000000
5	Panel temperature (*1)	5 byte	23.5
6	Reserved (TEMP0 acquisition)	5 byte	__ _'
7	MAX panel temperature history (*1)	5 byte	78.3
8	Reserved	4 byte	****
CS	2 Byte	2 byte	94

Note
(*1) : Centigrade scale

[4] QS5 (COLOR SENSOR DATA)

The command QS5 is for acquiring the color sensor information.

Command Format	Effective Operation Modes	Function	Remarks
[QS5]	Every Time	Output of status	Return data: 3 (ECO) + 45 (DATA) + 2 (CS) = 50 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS5
1	Color sensor data (Note)	1 byte	2
2	RED data of color sensor	4 byte	0425
3	GREEN data of color sensor	4 byte	2112
4	BLUE data of color sensor	4 byte	5000
5	Reserved	32 byte	** to **
CS	2 Byte	2 byte	94

Note: The color sensor data is output as the same data as QS2.

A [5] QSP (SUB VERSION OF THE PANEL SECTION)

The command QSP is for acquiring sub version data on software of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QSP]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSP
1	MDUcom-PRG	8 byte	=01Y
2	MDUcom-DATA_TBL	8 byte	=01Y ''''
3	SQ_LSI-PRG	4 byte	=01Y
4	SQ_LSI-PIC_TBL	8 byte	=01Y ''''
5	SQ_LSI-SEQ_DATA	4 byte	=01Y
6	Reserved	8 byte	*****
CS	2 Byte	2 byte	A3

C

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[6] QAJ (PANEL ADJUSTMENT DATA)

The command QAJ is for acquiring the panel's factory-preset data.

Command Format	Effective Operation Modes	Function	Remarks
[QAJ]	Every Time	Output of status	Return data: 3 (ECO) + 84 (DATA) + 2 (CS) = 89 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QAJ
1	Vsus adjustment value	3 byte	128
2	Vysnfs adjustment value	3 byte	128
3	Vyprst adjustment value	3 byte	128
4	Vxpofs1 adjustment value	3 byte	128
5	Vxpofs2 adjustment value	3 byte	128
6	Vyknofs1,2 adjustment value	3 byte	128
7	Vyknofs3 adjustment value	3 byte	128
8	Vyknofs4 adjustment value	3 byte	128
9	Δ Vyknofs1,2/3/4 adjustment value	3 byte	128
10	Reserved	6 byte	*****
11	R1K adjustment value	3 byte	128
12	R2K adjustment value	3 byte	128
13	Y1K adjustment value	3 byte	128
14	Y1Z adjustment value	3 byte	128
15	X1B adjustment value	3 byte	128
16	Y2B adjustment value	3 byte	128
17	X3B adjustment value	3 byte	128
18	YSB adjustment value	3 byte	128
19	XSB adjustment value	3 byte	128
20	YTK adjustment value	3 byte	128
21	YTZ adjustment value	3 byte	128
22	Y2K adjustment value	3 byte	128
23	Y2Z adjustment value	3 byte	128
24	YNK adjustment value	3 byte	128
25	SAT adjustment value	3 byte	128
26	Reserved	3 byte	***
27	AM radio countermeasure	1 byte	1
28	Reserved	2 byte	**
CS	2 Byte	2 byte	B7

27: AM radio countermeasure

n	n: 1 to 8 (SUS frequency n)
---	-----------------------------

[7] QPW (VIDEO ADJUSTMENT DATA OF THE PANEL)

The command QPW is for acquiring the factory-preset data about the video of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPW]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement	Data Length	Output Example
ECO	3 byte	QPW
1 Type of drive sequence (Note 1)	4 byte	60VS
2 ABL adjustment table	1 byte	1
3 Type of WB adjustment table (Note 1)	1 byte	1
4 ABL adjustment value	3 byte	128
5 R-HIGH adjustment value	3 byte	256
6 G-HIGH adjustment value	3 byte	256
7 B-HIGH adjustment value	3 byte	256
8 R-LOW adjustment value	3 byte	512
9 G-LOW adjustment value	3 byte	512
10 B-LOW adjustment value	3 byte	512
11 R gamma setting	2 byte	31
12 G gamma setting	2 byte	10
13 B gamma setting	2 byte	10
14 Streaking correction	1 byte	1
15 Center luminance correction	1 byte	0
16 Reserved	1 byte	*
17 Interlocked with APL	1 byte	0
18 Transition of protective operations	1 byte	0
19 Reserved	2 byte	**
CS 2 Byte	2 byte	37

1: Type of Drive sequence	
50VS	Video 50 Hz
60VS	Video 60 Hz
72VS	Video 72 Hz
75V1	Video 75-1 Hz
75V2	Video 75-2 Hz
60PS	PC 60 Hz

2: ABL adjustment table	
n	n: 1 to 3

3: Type of WB adjustment table	
n	n: 1 to 4

11, 12, 13: RGB Gamma setting	
n	00 to 31

15: Center luminance correction	
0	OFF
1	ON
2	ON (interlocked with APL)

17: Interlocked with APL	
0	OFF
1	ON
2	WB interlocked ON/ γ OFF
3	WB interlocked OFF/ γ ON

18: Transition of protective operations	
0	Upper limit state for brightness
1	Brightness being reduced
2	Lower limit state for brightness
3	Brightness being increased

Note 1: The "75 Hz-2" Drive Sequence type signals and WB Adjustment Table 4 are output only when "75 Hz-2" (VFQS07) is selected for internal signals (mask signals).
When external signals are selected and the Drive Sequence type is 75 Hz, "75 Hz-1" is output because "75 Hz-1" and "75 Hz-2" are not distinguished for external signals.

[8] QPF (FUNCTION OF THE PANEL)

The command QPF is for acquiring the characteristic and the function setting value of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPF]	Every Time	Output of status	Return data: 3 (ECO) + 69 (DATA) + 2 (CS) = 74 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPF
1	R-REVISE setting value	1 byte	0
2	G-REVISE setting value	1 byte	0
3	B-REVISE setting value	1 byte	0
4	Reserved	3 byte	***
5	ADDRESS L1,L2 setting value	2 byte	01
6	ADDRESS L3,L4 setting value	2 byte	13
7	ADDRESS U1,U2 setting value	2 byte	32
8	ADDRESS U3,U4 setting value	2 byte	30
9	Reserved	4 byte	****
10	Streaking correction	1 byte	1
11	Full-screen black display mode	1 byte	1
12	Reserved	4 byte	****
13	PANEL RX	3 byte	512
14	PANEL RY	3 byte	512
15	PANEL GX	3 byte	512
16	PANEL GY	3 byte	512
17	PANEL BX	3 byte	512
18	PANEL BY	3 byte	512
19	Reserved	6 byte	*****
20	Color sensor R coefficient	3 byte	***
21	Color sensor G coefficient	3 byte	***
22	Color sensor B coefficient	3 byte	***
23	Reserved	12 byte	** to **
CS	2 Byte	2 byte	37

1: 2: 3: RGB-REVISE setting value

n	n: 0 to 7 (Level n)
---	---------------------

5 to 8: ADDRESS α , β setting

nm	n: 0 to 9 (Address α setting PHASE n)
	m: 0 to 9 (Address β setting PHASE m)

10: Streaking correction

0	OFF
n	n: 1 to 8 (Mode n)

11: Full-screen black display mode

0	OFF (In-phase SUS drive prohibition)
1	MODE1 (In-phase SUS drive permission)

[9] QPM (PULSE METER VALUE)

The command QPM is for acquiring the accumulated pulse count.

Command Format	Effective Operation Modes	Function	Remarks
[QPM]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPM
1	Pulse meter B 1	8 byte	00000000
2	Pulse meter B 2	8 byte	00000000
3	Pulse meter B 3	8 byte	00000000
4	Pulse meter B 4	8 byte	00000000
5	Pulse meter B 5	8 byte	00000000
CS	2 Byte	2 byte	E7

Note:

The minimum for a returned value of the pulse meter for each block (B1-B2) is one million.

A [10] QPD (POWER DOWN LOGS)

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

Command Format	Effective Operation Modes	Function	Remarks
[QPD]	Every Time	Output of status	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPD
1	Latest "1st PD" data	1 byte	A
2	Latest "2nd PD" data	1 byte	2
3	Data from the hour meter for the latest PD	8 byte	00010020
4	Second latest "1st PD" data	1 byte	E
5	Second latest "2nd PD" data	1 byte	9
6	Data from the hour meter for the second latest PD	8 byte	00008523
7	Third latest "1st PD" data	1 byte	4
8	Third latest "2nd PD" data	1 byte	3
9	Data from the hour meter for the third latest PD	8 byte	00004335
10	Fourth latest "1st PD" data	1 byte	2
11	Fourth latest "2nd PD" data	1 byte	0
12	Data from the hour meter for the fourth latest PD	8 byte	00000945
13	Fifth latest "1st PD" data	1 byte	4
14	Fifth latest "2nd PD" data	1 byte	0
15	Data from the hour meter for the fifth latest PD	8 byte	00000715
16	Sixth latest "1st PD" data	1 byte	A
17	Sixth latest "2nd PD" data	1 byte	2
18	Data from the hour meter for the sixth latest PD	8 byte	00000552
19	Seventh latest "1st PD" data	1 byte	A
20	Seventh latest "2nd PD" data	1 byte	0
21	Data from the hour meter for the seventh latest PD	8 byte	00000213
22	Eighth latest "1st PD" data	1 byte	D
23	Eighth latest "2nd PD" data	1 byte	0
24	Data from the hour meter for the eighth latest PD	8 byte	000001A7
CS	2 Byte	2 byte	27

• PD data	
0	No PD
2	P-POWER
3	SCAN
4	SCN-5V
6	Y-DCDC
7	Y-SUS
8	Address
A	X-DCDC
B	X-SUS
C	DIGI-DCDC
F	UNKNOWN

[11] QSD (SHUTDOWN LOGS of the Panel Section)

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs of the panel section.

Command Format	Effective Operation Modes	Function	Remarks
[QSD]	Every Time	Output of status	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSD
1	Latest SD data	1 byte	1
2	Latest SD subcategory data	1 byte	0
3	Data from the hour meter for the latest SD	8 byte	00752013
4	Second latest SD data	1 byte	5
5	Second latest SD subcategory data	1 byte	0
6	Data from the hour meter for the second latest SD	8 byte	00495204
7	Third latest SD data	1 byte	2
8	Third latest SD subcategory data	1 byte	3
9	Data from the hour meter for the third latest SD	8 byte	00100355
10	Fourth latest SD data	1 byte	2
11	Fourth latest SD subcategory data	1 byte	5
12	Data from the hour meter for the fourth latest SD	8 byte	00075620
13	Fifth latest SD data	1 byte	1
14	Fifth latest SD subcategory data	1 byte	0
15	Data from the hour meter for the fifth latest SD	8 byte	00000852
16	Sixth latest SD data	1 byte	2
17	Sixth latest SD subcategory data	1 byte	2
18	Data from the hour meter for the sixth latest SD	8 byte	00000451
19	Seventh latest SD data	1 byte	0
20	Seventh latest SD subcategory data	1 byte	0
21	Data from the hour meter for the seventh latest SD	8 byte	00000000
22	Eighth latest SD data	1 byte	0
23	Eighth latest SD subcategory data	1 byte	0
24	Data from the hour meter for the eighth latest SD	8 byte	00000000
CS	2 Byte	2 Byte	7D

• SD data

0	No SD
1	SQ_LSI
2	MDU-DEVICE
3	RST2
4	Panel temperature

• SD subcategory (SQ_LSI)

0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (H/M)
6	Version mismatching (H/I)

• SD subcategory (MDU-DEVICE)

0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

• SD subcategory (Panel temperature)

0	No SD-Sub data
1	TEMP1 (high temperature)
2	TEMP1 (low temperature)

[12] QSE (DESTINATION PECULIAR INFORMATION)

Induce it peculiar, individual information is acquired.

• For PDP-LX6090

Command Format	Effective Operation Modes	Function	Remarks
[QSE]	Every time	Output of status	Return data: 3 (ECO) + 12 (DATA) + 2 (CS) = 17 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSE
1	Reserved	4 byte	****
2	DTB HARDWARE version	4 byte	FFFF
3	User setting password	4 byte	1234
CS	Check Sum	2 byte	13

• For PDP-LX6090H

Command Format	Effective Operation Modes	Function	Remarks
[QSE]	Every time	Output of status	Return data: 3 (ECO) + 28 (DATA) + 2 (CS) = 33 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSE
1	Check flag for production	1 byte	E
2	Reserved	3 byte	***
3	DTB HARDWARE version	4 byte	0342
4	Reserved	16 byte	*****
5	User setting password	4 byte	1234
CS	Check Sum	2 byte	13

[13] QMT (STATUS INFORMATION OF MTB/MR SECTION)

Temperature information / FAN rotation state / Room light sensor information on the MTB/MR section is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QMT]	Every time	Output of status	Return data: 3 (ECO) + 8 (DATA) = 11 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QMT
1	A/D value of temperature of MTB/MR section	3 byte	276
2	FAN rotating speed of MTB/MR section (0: STOP, 1: LOW, 2: HIGH)	1 byte	1
3	A/D value of room light sensor	3 byte	009
4	Level of room light sensor (Value: 1 to 5)	1 byte	5

* Returned each block.

[14] QNG (SHUTDOWN INFORMATION OF MTB SECTION)

The command QNG is for acquiring the data from the 8 latest shutdown (SD) logs of the MTB section.

Command Format	Effective Operation Modes	Function	Remarks
[QNG]	Every time	To acquire data on the shutdown (NG) logs of MTB side	Return data: 3 (ECO) + 96 (DATA) + 2 (CS) = 101 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QNG
1	Latest SD data	1 byte	1
2	Latest SD subcategory data	1 byte	0
3	Data from the MTB hour meter for the latest SD	7 byte	0752013
4	Reserved	3 byte	000 fixed
5	Second latest SD data	1 byte	5
6	Second latest SD subcategory data	1 byte	1
7	Data from the MTB hour meter for the second latest SD	7 byte	0495204
8	Reserved	3 byte	000 fixed
9	Third latest SD data	1 byte	A
10	Third latest SD subcategory data	1 byte	2
11	Data from the MTB hour meter for the third latest SD	7 byte	0365814
12	Reserved	3 byte	000 fixed
13	Fourth latest SD data	1 byte	5
14	Fourth latest SD subcategory data	1 byte	0
15	Data from the MTB hour meter for the fourth latest SD	7 byte	0256612
16	Reserved	3 byte	000 fixed
17	Fifth latest SD data	1 byte	7
18	Fifth latest SD subcategory data	1 byte	2
19	Data from the MTB hour meter for the fifth latest SD	7 byte	0105628
20	Reserved	3 byte	000 fixed
21	Sixth latest SD data	1 byte	B
22	Sixth latest SD subcategory data	1 byte	0
23	Data from the MTB hour meter for the sixth latest SD	7 byte	0003009
24	Reserved	3 byte	000 fixed
25	Seventh latest SD data	1 byte	C
26	Seventh latest SD subcategory data	1 byte	1
27	Data from the MTB hour meter for the seventh latest SD	7 byte	00002A9
28	Reserved	3 byte	000 fixed
29	Eighth latest SD data	1 byte	C
30	Eighth latest SD subcategory data	1 byte	4
31	Data from the MTB hour meter for the eighth latest SD	7 byte	0000012
32	Reserved	3 byte	000 fixed
CS	2 Byte	2 Byte	7D

< SD Information No. >

Frequency *	Shutdown Factor	Remarks (Operation)
1	Failure of Power Supply of VCC	Immediately Shutdown
5	Shutdown signal from D-Amp. / short-circuit of speaker terminal	Go to No. 5 Subcategory Information
6	Failure of communication with Module microcomputer	Immediately Shutdown
7	Failure in 3-wire serial communication of Main microcomputer	Go to No. 7 Subcategory Information
8	Failure in IIC communication of Main microcomputer	Go to No. 8 Subcategory Information
9	Failure in Communication of Main microcomputer	Immediately Shutdown
10(A)	Abnormally in FAN	Go to No. 10 Subcategory Information
11(B)	Abnormally in high temperature	Immediately Shutdown
12(C)	Failure in Digital Tuner	Go to No. 12 Subcategory Information
13(D)	Failure in Power Supply at MTB section	Go to No. 13 Subcategory Information
15(F)	Failure in Main EEPROM	Immediately Shutdown

*: Indicates the frequency of Blue LED flashing when the shutdown is occurred.

< No. 5 Subcategory Information on "Shutdown signal from D-Amp./short-circuit of speaker terminal" >

Value	Shutdown Factor	Remarks (Operation)
1	A_NG	Shutdown after 5 seconds warning
2	OTW	Shutdown after 5 seconds warning

< No. 10 Subcategory Information on "Abnormally in FAN" >

Value	Shutdown Factor	Remarks (Operation)
1	FAN 1	Immediately Shutdown
2	FAN 2	Immediately Shutdown

< No. 12 Subcategory Information on "Failure in Digital Tuner" >

Value	Shutdown Factor	Remarks (Operation)
1	Starting error of the digital tuner	Communication stop
2	Communication error with the digital tuner	
3	DTB device error	
4	Abnormmally in BCM7038	
5	Fugue	
6	Audio Chip	
7	Tuner 1/Tuner 1 or 2	
8	Card I/F IC	
9	VBI Slicer	
B	Flash	
C	EEPROM	
D	EEPROM	
F	DTV Antenna	
G	Home Gallery	
I	Application	
J	DEMOD(US)/COFDEM(EU)	
K	Tuner 2	
L	S2DEMOD	
M	LNB	

< No. 7 Subcategory Information on "Failure in 3-wire serial communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
1	Communication error of IF microcomputer	Immediately Shutdown
2	Communication error of ARIA	Immediately Shutdown

< No. 8 Subcategory Information on "Failure in IIC communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
1	Tuner 1	Immediately Shutdown
2	MSP/MAP	Immediately Shutdown
3	AV-Switch	Immediately Shutdown
4	RGB-Switch	Immediately Shutdown
5	Main VDEC	Immediately Shutdown
6	VDEC-SDRAM	Immediately Shutdown
7	AD/PLL	Immediately Shutdown
8	HDMI	Immediately Shutdown
9	DisplayPortTx	Immediately Shutdown
B	US-MAP	Immediately Shutdown
C	GCR	Immediately Shutdown
D	COFDEM	Immediately Shutdown

< No. 13 Subcategory Information on "Failure in Power supply at MTB section" >

Value	Shutdown Factor	Remarks (Operation)
1	RST 2	Immediately Shutdown
2	RST 4	Immediately Shutdown

[15] QSI (INPUT SIGNAL DATA)

The command QSI is for acquiring all data on input video signals.

Command Format	Effective Operation Modes	Function	Remarks
[QSI]	Every Time	Output of status	Return data: 3 (ECO) + 66 (DATA) + 2 (CS) = 71 Byte

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QSI
1	Type of drive sequence (Note)	4 Byte	60VS
2	Type of ABL adjustment table (Note)	1 Byte	1
3	Type of WB adjustment table (Note)	1 Byte	1
4	Reserved	4 Byte	****
5	Total value of PRH	4 Byte	0256
6	Total value of PGH	4 Byte	0256
7	Total value of PBH	4 Byte	0256
8	Reserved	4 Byte	****
9	Total value of PRL	4 Byte	0512
10	Total value of PGL	4 Byte	0512
11	Total value of PBL	4 Byte	0512
12	Total value of ABL	3 Byte	128
13	V frequency distinction	4 Byte	6002
14	Reserved	4 Byte	****
15	APL acquiring data	4 Byte	1023
16	Number of SUS pulses	4 Byte	0457
17	Detection status of still picture	1 Byte	1
18	Detection status of cracking in the panel	1 Byte	1
19	Detection status of SCAN protection	1 Byte	1
20	Detection status of external protection	1 Byte	1
21	Transition of protection operations	1 Byte	0
22	Address emergency status	1 Byte	1
23	Detection status of reset operation	1 Byte	1
24	In-phase SUS mode status	1 Byte	1
25	Reserved	1 Byte	1
CS	2 Byte	2 Byte	27

18 to 20: Each protection function

0	Setting: OFF
1	Setting: ON (during wait)
2	Setting: ON (during operation)

21: Transition of protection operations

0	Upper limit status for brightness
1	Brightness being reduced
2	Lower limit status for brightness
3	Brightness being increased

22: Address emergency status

0	Normal status
1	Emergency status

23: Reset operation status

A	All reset operation
2	Interlace 1/2 reset operation
4	Interlace 1/4 reset operation
L	Reset less operation (specifications operation)

24: In-phase SUS mode status

0	Normal status
1	In-phase SUS mode status
2	Assist status at the cancellation

Note: The types of drive sequence and ABL/WB table are output as the same data as QPW.

A [16] DRV (PANEL DRIVE-POWER ON/OFF)

Panel drive-power ON/OFF (drive ON/OFF) is controllable.

Command Format	Operation		Remarks
	Effective Operation Modes	Function	
[DRV+S00]	Every time	DRIVE OFF	If a command is issued in Standby mode, and the unit is left unoperated for more than 10 seconds, the command will become void.
[DRV+S01]	Every time	DRIVE ON (default)	

Note: The function of the DRIVE OFF key on the remote control unit for servicing is the same as that of the DRVS00 command.
(A function equivalent to that of the DRVS01 command is not provided for the remote control unit for servicing.)

[17] FAY/FAN (ADJUSTMENT COMMANDS PERMISSION/PROHIBITION)

The commands FAY/FAN are for prohibiting/permitting panel/MTB-adjustment commands.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAY]	Normal operation mode while the power is on	Adjustment command is valid.	For details, refer to the section "6.1 [3] FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE".
[FAN]	During FAY	Adjustment command is invalid.	

[18] FAJ/UAJ/CBU/BCP (BACKUP FUNCTION FOR ADJUSTMENT VALUE)

When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAJ]	During FAY	To make the status of the EEPROM on the DIGITAL Assy "adjustment completed" and copy the data to the EEPROM for backup	This takes at least 350 msec.
[UAJ]		To make the status of the EEPROM on the DIGITAL Assy "adjustment not completed"	Only the status is changed, and the real data are not erased.
[CBU]		To make the status of the EEPROM on for backup "adjustment not completed"	Only the status is changed, and the real data are not erased. However, if the status of the EEPROM on the DIGITAL Assy is "adjustment completed," the data in the EEPROM of the DIGITAL Assy will be copied to the EEPROM for backup upon POF.
[BCP]		To copy the backup data from the EEPROM for backup to the EEPROM on the DIGITAL Assy	

6. SERVICE FACTORY MODE

6.1 OUTLINE OF THE SERVICE FACTORY MODE

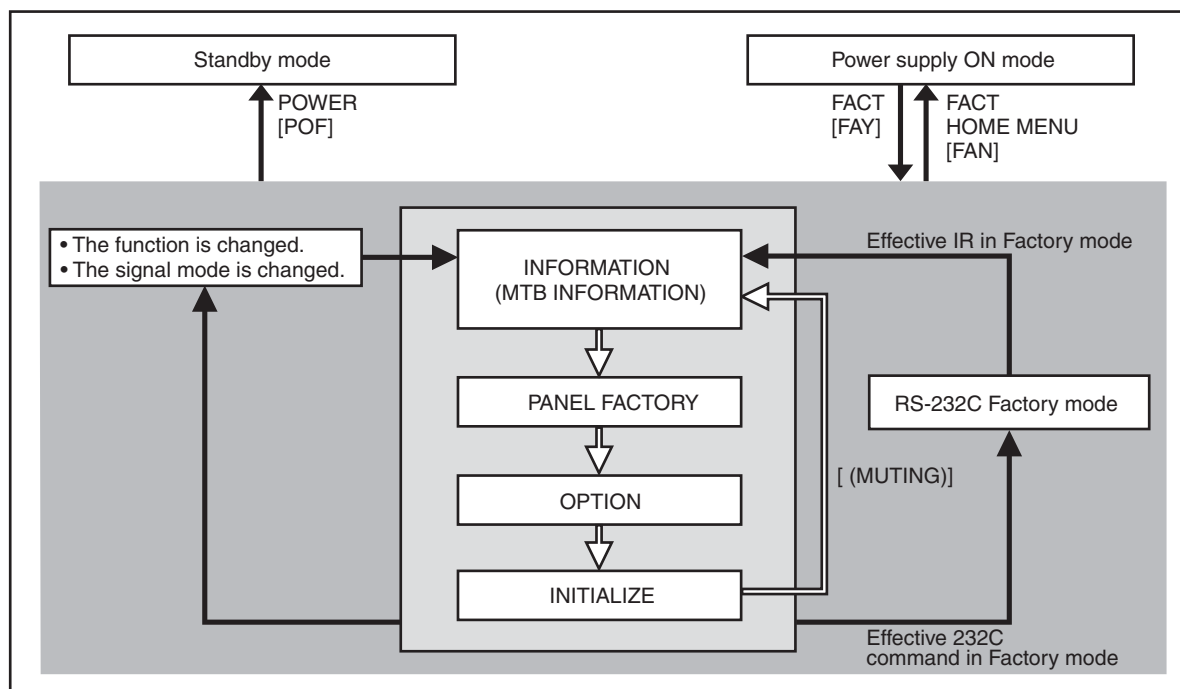
Operations during Service Factory mode are described here.

Before entering Factory mode of the PDP, make sure that the "HD AV Converter" setting on the PDP menu is set to "Disable." If it is set to "Enable," change it to "Disable" then enter Factory mode.

To confirm the "HD AV Converter" setting on the PDP menu, proceed as follows:
Select HOME MENU, Option, then HD AV Converter in HDMI Control Setting.

Note: If "HD AV Converter" is set to "Enable," the video/audio signals will not be displayed/output even if external equipment is connected via input connectors other than INPUT 4 of the PDP.

[1] SERVICE FACTORY MODE TRANSITION CHART



[2] HOW TO ENTER/EXIT SERVICE FACTORY MODE

■ How to enter Service Factory Mode

By using a PDP service remote control)

- PDP service remote control : Press [FACTORY] key.

By issuing RS-232C commands)

- During normal Standby mode : Issue [PON] then [FAY].
- During normal operation mode : Issue [FAY].

■ How to exit Service Factory Mode

By using a PDP service remote control)

- PDP service remote control : press [FACTORY] key.
- Supplied remote control unit : press [HOME MENU] key.

By issuing RS-232C commands)

- Issue [FAN].

■ How to enter Service Factory Mode by Using the supplied Remote Control Unit

- From this model, can not enter the Service Factory Mode by operating the supplied remote control unit keys.

[3] FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE

Functions whose setting are set to OFF

The settings for the following functions are set to OFF when Service Factory mode is entered (including when the "FAY" command is received) :

Function	Remarks
2-Screen Operation	Input function set on the main side is selected.
FREEZE	
Auto size, Side Mask	It is not performed during Factory mode.
ORBITER, Mask control	Central value operation (ORBITER)
Sleep Timer	Cancel the operation.
Room light sensor	Turn off the detecting operation (Setting data will be retained.)
Blue LED dimmer	Turn off the operation (Setting data will be retained.)
Setting of Parental Control	When this is turned off, the block of the screen is released.
Power Control	Turn off the operation (However, the setting maintains it.)
Image Position	Central value operation

Note: Enter the factory after cancelling ACI because the ACI operation setting OFF and not done.

User data

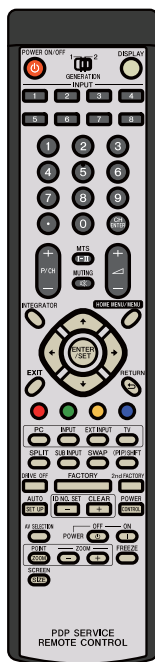
User data will be treated as follows :

- User data on picture-quality and audio-quality adjustments are not reflected, and factory-preset data are output (user data will be retained in memory). When the unit enters Service Factory mode, the current audio-quality adjustment data will be still be retained in memory.
- User-setting data will be applied to the various settings (items on the menus), signal formats, and the items that are associated with path change (HDMI settings, etc.).
- Data on screen (i.e., screen position; meaning clock dividers, and not including data on screen size). Are reset to the default values (data stored in memory will be retained). Screen size will be retained.

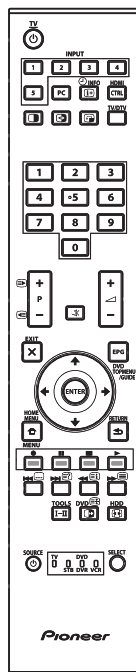
[4] REMOTE CONTROL CODE IN SERVICE FACTORY MODE

Remote Control Keys	Basic Functions	Remarks
MUTING	Switching the main items.	Shifting to the next main item (top).
↓ (DOWN)	Switching the subtitled items.	Shifting downward to the next subtitled item.
↑ (UP)	Switching the subtitled items.	Shifting upward to the next upper layer.
← (LEFT)	Decreasing the adjustment value.	Decreasing the adjustment value.
→ (RIGHT)	Increasing the adjustment value.	Increasing the adjustment value.
ENTER/SET	Switching the layers.	Shifting downward or upward to the next lower or upper layer.
INPUT	Selecting INPUT.	Shifting the INPUT to the next function.
INPUTxx	Selecting INPUT.	Switching the INPUT to xx. (xx=1 to 7 etc)
CH+/P+	Increasing the channel number.	
CH-/P-	Decreasing the channel number.	
Numeric Keys	Function: TV	Function: TV (previously selected channel number is selected)
POWER	Power OFF.	Turning the power off.
FACTORY	Factory OFF (Factory mode)	In Factory mode, turning Factory mode off.
	Factory ON (Non-Factory mode).	In Non-Factory mode, turn Factory mode on.
HOME MENU	Menu ON.	In Factory mode, turn Factory mode off.
VOLUME+	Volume UP.	Increasing 10 the adjustment value. (PANEL FACTORY)
VOLUME-	Volume DOWN.	Decreasing 10 the adjustment value. (PANEL FACTORY)
DRIVE OFF (Note1)	Drive Mode OFF.	Turning Drive mode off.
INTEGRATOR	INTEGRATOR MENU ON.	Enter INTEGRATOR MODE.

(Note 1) When ten seconds have passed since the [DRIVE OFF] key was pressed at the standby, it becomes invalid.
Please press [POWER] key from the [DRIVE OFF] key pressing within ten seconds when you do power supply ON while driven OFF.



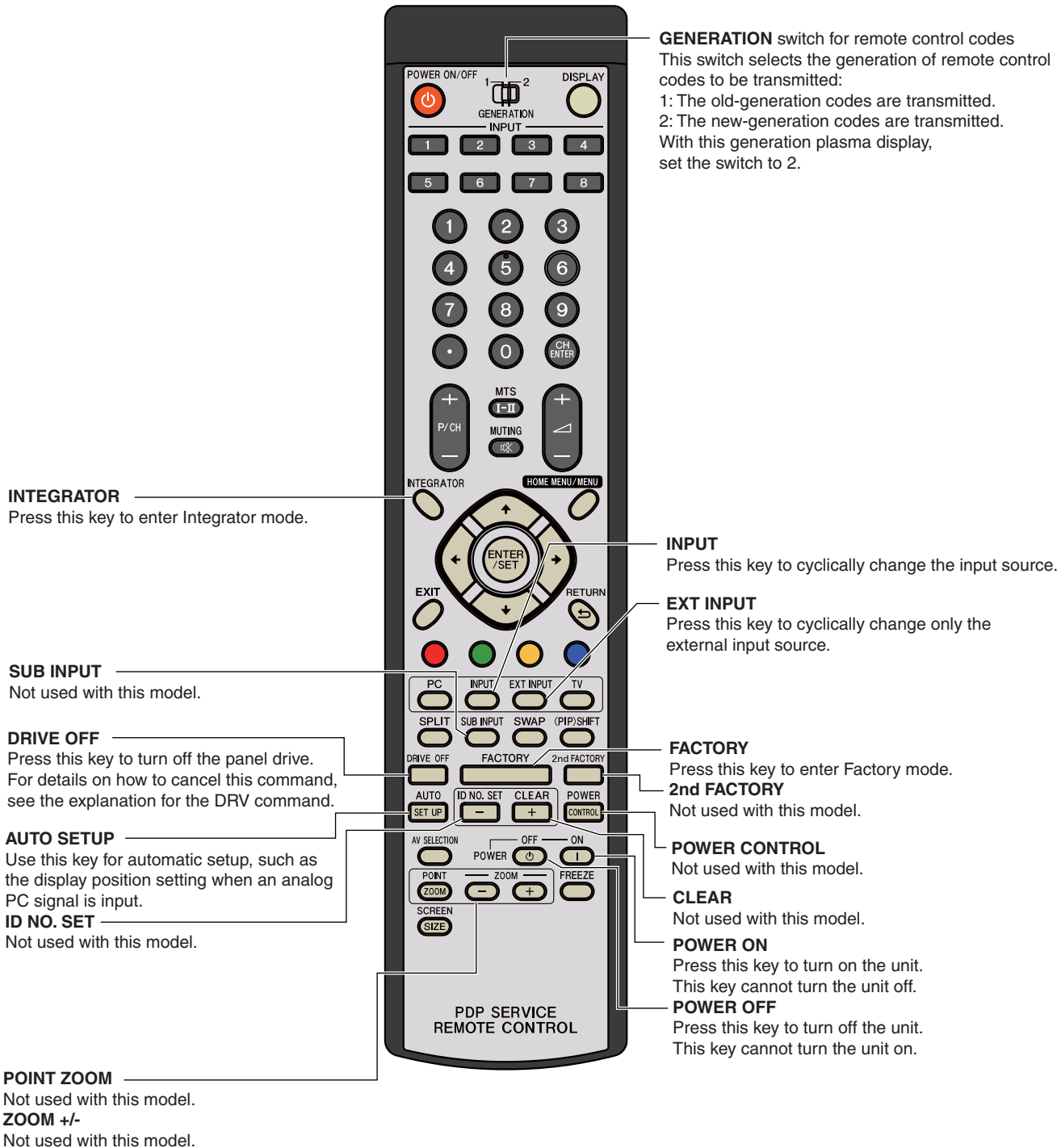
PDP service
remote control



Supplied
remote control

[5] PDP SERVICE REMOTE CONTROL

- The keys labeled with the same names on the service remote control unit have the same functions as those of the supplied remote control unit. (See "2.3 PANEL FACILITIES.")
- For the keys not provided on the supplied remote control unit, see the explanations below:



[6] FACTORY HIERARCHICAL TABLE

Large Item			Variable / Adjustment Range	Remarks
	Middle Item			
		Small Item		
6.2 [1] INFORMATION				
	[1-1] VERSION (1)			
	[1-2] VERSION (2)			
	[1-3] MAIN NG	CLEAR <=>	NO <=> YES	
	[1-4] TEMPERATURE			
	[1-5] HOUR METER	CLEAR <=>	NO <=> YES	
	[1-6] HDMI SIGNAL INFO 1			
	[1-7] HDMI SIGNAL INFO 2			
	[1-8] VDEC SIGNAL INFO 1			
	[1-9] VDEC SIGNAL INFO 2			
6.2 [2] PANEL FACTORY (+)				
	[2-1] PANEL INFORMATION			
	[2-2] PANEL WORKS			
	[2-3] POWER DOWN			
	[2-4] SHUT DOWN			
	[2-5] PANEL-1 ADJ (+)	VOL SUS <=>	000 to 255	
		VOL OFFSET <=>	000 to 255	
		VOL RST P <=>	000 to 255	
		VOL XPOFS1 <=>	000 to 255	
		VOL XPOFS2 <=>	000 to 255	
		VOL YKNOFS1 D <=>	000 to 255	
		VOL YKNOFS3 D <=>	000 to 255	
		VOL YKNOFS4 D <=>	000 to 255	
		VOL YKNOFSA D <=>	000 to 255	
		RESET1ST_KSB <=>	112 to 144	
		RESET2ND_KSB <=>	112 to 144	
		YSTL_1SF_KSB <=>	112 to 144	
		YSTL_1SF_HZ <=>	112 to 144	
		XSUS_1ST_B <=>	112 to 144	
		YSUS_2ND_B <=>	112 to 144	
		XSUS_3RD_B <=>	112 to 144	
		YSUS_B <=>	112 to 144	
		XSUS_B <=>	112 to 144	
		YSTL_KSB <=>	112 to 144	
		YSTL_HZ <=>	112 to 144	
		YSTL_2SF_KSB <=>	112 to 144	
		YSTL_2SF_HZ <=>	112 to 144	
		YSTL_FMR_KSB <=>	112 to 144	
		SCAN ADRS ADJ <=>	112 to 144	
		SUS FREQ <=>	<=> MODE 1 to MODE 8 <=>	
	[2-6] PANEL-2 ADJ (+)	R-HIGH <=>	000 to 999	
		G-HIGH <=>	000 to 999	
		B-HIGH <=>	000 to 999	
		R-LOW <=>	000 to 999	
		G-LOW <=>	000 to 999	
		B-LOW <=>	000 to 999	
		ABL <=>	000 to 255	
	[2-7] PANEL FUNCTION (+)	R-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		G-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		B-LEVEL <=>	<=> LV-0 to LV-7 <=>	
		ADDRESS L1 <=>	<=> PH0 to PH9 <=>	
		ADDRESS L2 <=>	<=> PH0 to PH9 <=>	
		ADDRESS L3 <=>	<=> PH0 to PH9<=>	
		ADDRESS L4 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U1 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U2 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U3 <=>	<=> PH0 to PH9 <=>	
		ADDRESS U4 <=>	<=> PH0 to PH9<=>	
		STK MODE <=>	OFF <=> MODE1 to MODE8 <=>	
		FULL BLACK <=>	MODE1 <=> OFF	
		PANEL RX <=>	000 to 999	
		PANEL RY <=>	000 to 999	
		PANEL GX <=>	000 to 999	
		PANEL GY <=>	000 to 999	
		PANEL BX <=>	000 to 999	
		PANEL BY <=>	000 to 999	
		CLS R <=>	000 to 255	
		CLS G <=>	000 to 255	
		CLS B <=>	000 to 255	

A

B

C

D

E

F

Large Item			Variable / Adjustment Range	Remarks	
	Middle Item	Small Item			
6.2 [2] PANEL FACTORY (+)					
	[2-8] ETC. (+)	BACKUP DATA <=>	NO OPRT <=> TRANSFER/ERR		
		DIGITAL EEPROM <=>	NO OPRT <=> DELETE/REPAIR		
		PD INFO. <=>	NO OPRT <=> CLEAR		
		SD INFO. <=>	NO OPRT <=> CLEAR		
		HR-MTR INFO. <=>	NO OPRT <=> CLEAR		
		PM/B1-B5 <=>	NO OPRT <=> CLEAR		
		P COUNT INFO. <=>	NO OPRT <=> CLEAR		
		MAX TEMP. <=>	NO OPRT <=> CLEAR		
		MIRROR <=>	OFF <=> MODE1 to MODE3 <=>		
	CLS <=>	OFF <=> ON			
	[2-9] RASTER MASK SETUP (+)	MASK OFF			
		RST MASK 01 <=>	<=> 50V <=> 60V <=> 60P		
		...	<=> 72V <=> 75V1 <=> 75V2 <=>		
		RST MASK 25 <=>			
	[2-10] PATTERN MASK SETUP (+)	MASK OFF			
		PTN MASK 01 <=>	<=> 50V <=> 60V <=> 60P		
		...	<=> 72V <=> 75V1 <=> 75V2 <=>		
		PTN MASK 49 <=>			
	[2-11] COMBI MASK SETUP (+)	MASK OFF			
		CMB MASK 01 <=>	<=> 50V <=> 60V <=> 60P		
		...	<=> 72V <=> 75V1 <=> 75V2 <=>		
		CMB MASK 17 <=>			
6.2 [3] OPTION					
	[3-1] CH PRESET <=>		DISABLE <=> ENABLE	Exclusively used for production line	
	[3-2] Digital AFT <=>		DISABLE <=> ENABLE	Exclusively used for production line (*1)	
	[3-3] SYNC DET (+)			for the technical analysis	
	[3-4] CTI (+)			for the technical analysis	
6.2 [4] INITIALIZE					
	[4-1] SIDE MASK LEVEL (+)	SIDE MASK LEVEL <=>			
	[4-2] FINAL SETUP (+)	DATA RESET <=>	NO <=> YES		
	[4-3] DTB SERVICE MODE (+)	MODE SHIFT <=>	NO <=> YES	for the technical analysis (*1, *2)	
	[4-4] Wide XGA AUTO <=>		DISABLE <=> ENABLE	for the technical analysis	
	[4-5] AUTO ADJUSTMENT (+)	AUTO ADJUST. <=>	NO <=> YES		

(*1): PDP-LX6090H only

(*2): Exit the Service Factory Menu and enter the Digital Tuner Service menu.

[7] INDICATIONS IN SERVICE FACTORY MODE

1	5	10	15	20	25	30	35	40														
1	INFORMATION										AV1-10501-PLV-EHB											
VERSION(1)																						
5	I / F										- 07A										01A	
	MAIN										- 02EH 1										= 01E	
	MULTI AGC										1 078 A											
	PRS										- 02A										01A	
	PIC										- 02A											
10	DTUNER										- 02E										01E	
	MODULE										- 06A										01A	
	SEQ PRS										- 03Y										01A	
15	PANEL INFO										XXXXXXXXXX											
16																						

Main-items

Subtitled-items

Main-item indications

	20		25		30		35		40
			</						

① ② ③ ④

① Input function

Input Functions	OSD
AV 1 to 5	AV 1 to 5
Terrestrial Wave (Analog)	AIR
Terrestrial Wave (Digital)	ARD
Satellite digital broadcasting (PDP-LX6090H only)	SAT
Cable (Digital)	CBD
Home Media Gallery	HMG
PC	PC

② SIG mode and Screen size

Note: See SIG-Mode Tables. (See next page.)

③ Color system and Signal type

Color System and Signal Type	OSD	
	At Composite Input	At S-connector Input
NTSC	NTV	NTS
PAL	PLV	PLS
PAL M	PMV	PMS
PAL N	PNV	PNS
PAL 60	P6V	P6S
SECAM	SCV	SCS
4.43 NTSC	4NV	4NS
BLACK/WHITE	BWV	BWS
Y/CB/CR	CBR	
Y/PB/PR	PBR	
RGB	RGB	
Digital Video signal	DIG	

④ Option (Destination, Panel Generation, etc.)

Options	OSD
PDP-LX5090/6090H	EHB
PDP-LX5090/6090D	ETB

② SIG Mode and Screen size (by User is displayed)

1st and 2nd characters : Resolution of the input signal

3rd and 4th characters : Refresh rate of the input signal

5th character : Selection of the screen size

■ Input signal mode table for video signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
10	50	SDTV*625i	50.000	15.750
	60	SDTV*525i	60.000	15.750
20	50	SDTV*625p	50.000	31.500
	60	SDTV*525p	60.000	31.500
30	50	HDTV*1125i	50.000	33.750
	60	HDTV*1125i	60.000	33.750
40	50	HDTV*750p	50.000	45.000
	60	HDTV*750p	60.000	45.000
50	24	HDTV*1125p	24.000	27.000
	50	HDTV*1125p	50.000	56.250
	60	HDTV*1125p	60.000	67.500

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Input signal mode table for PC signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
C1	70	720 x 400	70.087	31.469
C2	60	640 x 480	59.940	31.469
C4	60	800 x 600	60.317	37.879
C6	60	1280 x 720	60.000	44.800
C7	60	1024 x 768	60.004	48.363
C9	60	1360 x 768	60.015	47.712
D6	60	1280 x 1024	60.000	64.000

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Current selection of the screen size

5th Character	GUI Notation	VIDEO	PC	Remarks
0	DOT BY DOT	●	—	
1	4:3	●	●	
2	FULL	●	●	
3	ZOOM	●	—	
4	CINEMA	●	—	
5	WIDE	●	—	
6	FULL 14:9	●	—	
7	CINEMA 14:9	●	—	
9	WIDE1	●	—	
A	WIDE2	●	—	

●: supported, —: unsupported

6.2 DETAILS OF FACTORY MENU

[1] INFORMATION

■ Operation items

No.	Function	Content	RS-232C Command
[1-1]	VERSION (1)	The Flash memory versions for each device are displayed.	QS1
[1-2]	VERSION (2)	The Flash memory versions for each device are displayed.	QSE
[1-3]	MAIN NG	The Shutdown NG information and Event Times in the MTB section are displayed.	QNG
[1-4]	TEMPERATURE	The present temperature and the FAN rotating status are displayed.	—
[1-5]	HOUR METER	The accumulation power ON count of the panel is displayed.	—
[1-6]	HDMI SIGNAL INFO 1	The status registers of HDMI receiver are displayed with hexadecimal.	—
[1-7]	HDMI SIGNAL INFO 2		
[1-8]	VDEC SIGNAL INFO 1	Display the signal information input to VDEC.	—
[1-9]	VDEC SIGNAL INFO 2		

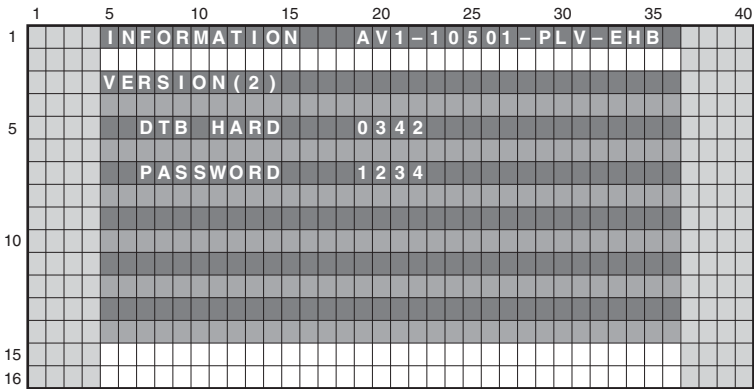
[1-1] VERSION (1)

1	5	10	15	20	25	30	35	40
1								
5								
10								
15								
16								

Display Item	Meaning	Display Example (Program)	Display Example (Boot)
I/F	I/F microcomputer	-07A	01A
MAIN	Main microcomputer	-02EH_1	=01E
MULTI AGC	AGC data of Multi processor	1078-A	
MULTI PRS	Program of Multi processor	-02A	01A
MULTI PIC	Picture quality data of Multi processor	-02A	
DTUNER (*1)	Software program of the Digital tuner	-02E	01E
MODULE	Module microcomputer	-06A	01A
SEQ PRS	Program of Sequence processor	-03Y	01A
Display Item	Meaning		
PANEL INFO	It displays the generation of the panel, inchage and the type of the panel. For details on display values and settings, see "10: Panel Information" in "5.9 [1] QS1 (PANEL STATUS)."		

(*1): PDP-LX6090H only

A [1-2] VERSION (2)



B

Display Item	Meaning	Display Example
DTB HARD	DTB Hardware Version	0342
PASSWORD	User setting password	1234

C

D

E

F

[1-3] MAIN NG

	1		5		10		15		20		25		30		35		40
1																	

MTB side's Shutdown NG information

Error Display: MAIN	Error Display: SUB	Cause of Shutdown
AUDIO		Short-circuit of the speaker terminal or failure of audio amplifier.
	AUDIO	Short-circuit of the speaker terminal or failure signal of audio amplifier (MAIN) (PDP-LX6090H only)
	OTW	Short-circuit of the speaker terminal or failure signal of audio amplifier (IF) (PDP-LX6090H only)
MODULE	----	Serial communication error of Module microcomputer.
MA-3L		3-wire Serial Communication error of Main microcomputer.
	IF	Communication error of IF microcomputer
	MULTI	Main communication error of Multi Processor
MA-IIC		IIC Communication error of Main microcomputer
	FE1	Tuner 1
	MSPMAP	MSP/MAP
	AV-SW	AV Switch
	RGB-SW	RGB Switch
	VDEC	Main VDEC
	SDRAM	VDEC - SDRAM
	ADC	AD/PLL
	HDMI	HDMI
	DEMOD	COFDEM (PDP-LX6090 only)
MAIN	----	Communication error of Main microcomputer
FAN		FAN abnormal
	FAN2	FAN2 abnormal stop
TEMP2	----	Abnormally high temperature
DTUNER		Failure in Digital Tuner
	PS/RST	DTB Starting error
	RETRY	Communication error with DTB (PDP-LX6090H only)
	DEVICE	DTB device error (PDP-LX6090H only)
	DE-FE	DTB device error (Tuner 1) (PDP-LX6090H only)
	D-ANT	Abnormally in DTB antenna
	DTVAPP	DTB device error (Application) (PDP-LX6090H only)
	DEMOD	DTB device error (COFDEM) (PDP-LX6090H only)
	DE-FES	DTB device error (Tuner S2) (PDP-LX6090H only)
	DEMONS	DTB device error (S2DEMOD) (PDP-LX6090H only)
	DE-LNB	DTB device error (LNB) (PDP-LX6090H only)
RST-MA		Abnormally in MTB power
	M-DCDC	Abnormally in ASIC power (DC-DC)
	RELAY	Power decrease of RELAY power
MA-EPP	----	Main EEPROM communication error

[1-4] TEMPERATURE

A present temperature and the FAN rotation are displayed.

If either [←] key or [→] key is pressed, the display data is refreshed.

	1			5				10				15				20				25				30				35			40
1																															
5																															
10																															
15																															
16																															

Display Item	Meaning
TEMP1	The temperature of the sensor on the panel side is displayed by the Centigrade (C).
TEMP2	The temperature conversion display is done with 10 bit the A/D input value of IF microcomputer. It is displayed by both the Centigrade (C) and 8 bit A/D value. Note: When temperature (C) of the sensor becomes more than a specified temperature, the shutdown start of processing.
FAN1	The value of the FAN rotating state is displayed. STOP: stopped, LOW: slow speed, HIGH: high speed.
FAN2	The value of the rotation state of FAN is displayed. During a rotation of FAN, 8bit D/A value output from IF microcomputer is displayed. It is displayed with OFF during a stop.
B-SENSOR	The value that indicated the degree of brightness input into an Room light sensor is displayed. AD value when the output of the Room light sensor was input into IF microcomputer is displayed.

A [1-5] HOUR METER

1	1	5	10	15	20	25	30	35	40
1									
5									
10									
15									
16									

B

Display Item	Meaning	Display Example
PANEL	HOURLY METER of the panel	00151H 21M
P-COUNT	Accumulation power ON count of the panel	00000095 TIMES
SERIAL	Serial number of the product	ABCDEFGHIJKLMNO

C

• MTB HOUR METER

In HOUR METER screen on Factory Menu, press the [ENTER/SET] key, and then it moves to the screen to clear MTB HOUR METER. (MTB HOUR METER is cleared only.)

D

1	1	5	10	15	20	25	30	35	40
1									
5									
10									
15									
16									

E

Operation:

- Even if [←] key or [→] key is pressed, {CLEAR <=> :YES} ⇔ {CLEAR <=> :NO} is repeated.
- Selecting <NO> then pressing the ENTER/SET key will return the screen to the next higher layer, without doing anything.
- Selecting <YES> then holding the ENTER/SET key pressed for 5 seconds will clear the HOUR METER (HOUR METER while the MAIN NG screen is displayed) data that are managed in MTB then return the screen to the next higher layer.

F

[1-6] HDMI SIGNAL INFO 1

1	5	10	15	20	25	30	35	40
1								
5								
10								
15								
16								

Displays the input signal information of HDMI terminal

Display Item	Meaning
PWR5V	+5 V power detection (18 pin of HDMI terminal)
VSYNC	VSYNC detection
CKDT	Clock detection
SCDT	SYNC detection
DCRPT	HDCP decryption status
AUTHEN	HDCP authentication status
MODE	HDMI mode status
BIST	HDCP Key status (Always display it with "--".)
NVAL	N value
CTSVAL	CTS value
AKSV	Shadow AKSV value
BKSV	Shadow BKSV value
IT CNT	IT content (AVI info)
EXTCOL	Extension calorimetry (AVI info)
RGV QR	RGB range (AVI info)
PIXDEP	Number of pixel/bit

[1-7] HDMI SIGNAL INFO 2

1	5	10	15	20	25	30	35	40
1								
5								
10								
15								
16								

Displays input signal status of HDMI terminal

Display Item	Meaning
H RES	Number of horizontal pixels
V RES	Number of vertical lines
H DE	Number of effectively horizontal pixels
V DE	Number of effectively vertical lines
INTRL	Interlace (=INT) or progressive (=PRG)
V POL	VSYNC polarity
H POL	HSYNC polarity
AUDIO (first line)	Sampling frequency. (ex. DVD: 48kHz, CD: 44.1kHz) *1
AUDIO (second line)	Audio format PCM (PCM) or No PCM (no PCM)
AUDIO (third line)	Quantization bit
COL SP	Color space (AVI Info) 422 or 444 or RGB *2
COLMET	Calorimetry (AVI Info)
ASPECT	Aspect (AVI Info)
ACTIVE	Active format (AVI Info)
V FMT	Video format (AVI Info)
PIX RP	Pixel count
SOURCE (first line)	Vendor name of the emission device
SOURCE (second line)	Model name of the emission device

*1: Confirm if this item is displayed when the audio is not outputted.

*2: If may not match to the state of source devices when the color is abnormal.

Display of HDMI FACTORY and correspondence of resolution

Please confirm the following items when the picture doesn't come out.

Input Signal	FACTORY Display				
	H RES	V RES	H DE	V DE	V FMT
480i (525i)@60	858	262 or 263	720	240	720x480i@60
480p (525p)@60	858	525	720	480	720x480p@60
1080i (1125i)@60	2200	562 or 563	1920	540	1920x1080i@60
720p (750p)@60	1650	750	1280	720	1280x720p@60
1080p (1125p)@60	2200	1125	1920	1080	1920x1080p@60
1080p (1125p)@24	2750	1125	1920	1080	1920x1080p@24
576i (625i)@50	864	312 or 313	720	288	720x576i@50
576p (625p)@50	864	625	720	576	720x576p@50
1080i (1125i)@50	2640	562 or 563	1920	540	1920x1080i@50
720p (750p)@50	1980	750	1280	720	1280x720p@50
1080p (1125p)@50	2640	1125	1920	1080	1920x1080p@50

[1-8] VDEC SIGNAL INFO 1

1	5	10	15	20	25	30	35	40																																
1	INFORMATION										AV1-10501-PLV-EHB																													
	VDEC SIGNAL INFO 1																																							
5	MVDEC -000:00										SVDEC -400:00																													
	-001:00										-401:00																													
	-094:00										-494:00																													
	-095:00										-495:00																													
	-096:00										-496:00																													
10	-098:00										-- --:--																													
	-1B5:00										-5B5:00																													
	-1B6:00										-5B6:00																													
	-1B7:00										-5B7:00																													
15																																								
16																																								

Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	000h	400h	Line system distinction result
	001h	401h	VTR distinction result
	094h	494h	Slot number
	095h	495h	Color system distinction result
	096h	496h	ACC coefficient
	098h	---	3D YC flag
	1B5h	5B5h	MV detection 1
	1B6h	5B6h	MV detection 2
	1B7h	5B7h	MV detection 3

[1-9] VDEC SIGNAL INFO 2

1	5	10	15	20	25	30	35	40												
1	INFORMATION										AV1-10501-PLV-EHB									
	VDEC SIGNAL INFO 2																			
5	MVDEC -205:00										SVDEC -605:00									
	-208:00										-608:00									
	-20B:00										-60B:00									
	-20C:00										-60C:00									
	-20D:00										-60D:00									
10																				
15																				
16																				

Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	205h	605h	CC detection 1
	208h	608h	CC detection 2
	20Bh	60Bh	CC-CRI detection
	20Ch	60Ch	XDS content advisory 0
	20Dh	60Dh	XDS content advisory 1

[2] PANEL FACTORY (+)

■ Operation Items

This is the menu screen for the adjustment of the panel. Data acquisition and value adjustment can be performed for the following items:

No.	Indication	Description of functions
[2-1]	PANEL INFORMATION	Data, such as the version of the microcomputer of the panel, product serial number, and statuses of EEPROM for adjustment values for the main unit and for backup, are displayed.
[2-2]	PANEL WORKS	Operation data, such as accumulated pulse-meter count, accumulated hour-meter count, accumulated power-on count, and the temperature detected by the sensor, are displayed.
[2-3]	POWER DOWN	The power-down history is displayed.
[2-4]	SHUT DOWN	The shutdown history of the panel section is displayed.
[2-5]	PANEL-1 ADJ (+)	Settings of the driving voltage and AM radio prevention can be performed.
[2-6]	PANEL-2 ADJ (+)	White balance and ABL (power consumption) for the panel can be set.
[2-7]	PANEL FUNCTION (+)	Setting of the panel-degradation correction-level and various functions are displayed.
[2-8]	ETC. (+)	Copying of backup data, clearing of various settings, and changing of settings for functions for which setting data are not stored upon last update are performed.
[2-9]	RASTER MASK SETUP (+)	The mask indication (RASTER) can be set and indicated.
[2-10]	PATTERN MASK SETUP (+)	The mask indication (PATTERN) can be set and indicated.
[2-11]	COMBI MASK SETUP (+)	The mask indication (COMBI) can be set and indicated.

■ Details of indications in each layer

[2-1] PANEL INFORMATION

- Data, such as the version of the microcomputer of the panel, product serial number, and statuses of digital EEPROM for storing the adjustment values and for backup EEPROM, are displayed. No other layers are nested below this layer, and there are no adjustment items.

		1	5	10	15	20	25	30	32
1			PANEL	FACT.		IN1-30602-RGB-JHB			
	AREA1		PANEL	INFORMATION					
2			MODULE	-01A			01A		
3			-PRG	-01A					
4			-DAT	-01A					
5			SEQ PRS	-01Y			02A		
6			-PRQ	-01Y					
7			-PIC	-01Y					
8			-SEQ	520Y					
9									
A			SERIAL						
B			DIG.EEP	ADJUSTED					
C			BACKUP	NO DATA!					
D									
E									

■ Key operation

- <DOWN> : Shifting to PANEL WORKS
 <UP> : Shifting to COMBI MASK SETUP
 (+)
 <L/R> : Updating displayed information

■ Contents of the Display item

- MODULE : The version of data written in the Module microcomputer is indicated.
 -PRG : The program version of the Module microcomputer is indicated.
 -DAT : The data version of the Module microcomputer is indicated.
 SEQ PRS : The version of data written in the Sequence LSI is indicated.
 -PRG : The program version of the Sequence LSI is indicated.
 -PIC : The Picture-data version of the Sequence LSI is indicated.
 -SEQ : The sequence-data version of the Sequence LSI is indicated.
 SERIAL : The serial number of the module is indicated.
 DIG.EEP : The adjusted status of the EEPROM that is mounted on the DIGITAL Assy is indicated.
 BACKUP : The adjusted status of the EEPROM for backup that is mounted on the SENSOR Assy is indicated.

[2-2] PANEL WORKS

- Data on operations, such as the accumulated pulse-meter counts, hour-meter count, power-on count, and temperature detected by the sensor, are displayed. No other layers are nested below this layer, and there are no adjustment items.

		1	5	10	15	20	25	30	32
1			PANEL	FACT.		IN1-30602-RGB-JHB			
	AREA1		PANEL	WORKS					
2									
3			PM-B1	00000715	M				
4			PM-B2	00000607	M				
5			PM-B3	00000852	M				
6			PM-B4	00000668	M				
7			PM-B5	00000733	M				
8									
9			HR-MTR	000025H	20M				
A			P-COUNT	00000095	TIMES				
B			TEMP1	+27.4 / +70.8					
C			CLS-RGB	2000 / 0325 / 1223	-OK				
D									
E									

■ Key operation

- <DOWN> : Shifting to POWER DOWN
 <UP> : Shifting to PANEL INFORMATION
 <L/R> : Updating displayed information

← Temperature unit is " °C (Centigrade) ".

■ Contents of the Display item

- PM-B1 to B5: The accumulated pulse-meter counts for the 5 blocks on the screen are indicated. (the lowest-order digit represents millions of pulses.)
- HR-MTR: The hour-meter value (accumulated power-on hours) is indicated.
- P-COUNT: The accumulated power-on count is indicated.
- TEMP1: The current panel temperature and the historical maximum temperature recorded in memory are indicated. The range of temperature indication is from -50.0 to +99.9. (The temperature unit is " °C (Centigrade) ".)
- CLS-RGB: Data obtained from the color sensor are displayed in the order R, G, and B, with the status indication at the end.

CLS Status	OSD Indication
Function OFF	-OFF
Color sensor module non connection	-NC
Data abnormality	-INV
Data normal	-OK

Note:

Turning ON the functions of the color sensor can be performed in the ETC(+) layer.

A [2-3] POWER DOWN

- The power-down history is displayed. No other layers are nested below this layer.

		1	5	10	15	20	25	30	32	
1		PANEL	FACT.			IN1-30602-RGB-JHB				
	AREA1	POWER	DOWN							
	2	1ST		2ND		000124H	23M			
5	3									
	4	1	X-DCDC	-----		000124H	21M			
	5	2	Y-SUS	SCAN		000115H	05M			
	6	3	SCAN	-----		000107H	53M			
	7	4	POWER	SCAN		000098H	47M			
10	8	5	ADRS	-----		000051H	30M			
	9	6	SCN5V	X-DCDC		000022H	21M			
A	7	Y-DCDC	-----			000000H	57M			
B	8							H	M	
C										
15	D									
16	E									

■ Key operation

- <DOWN> : Shifting to SHUT DOWN
- <UP> : Shifting to PANEL WORKS
- <L/R> : Updating displayed information

■ Contents of the Display item

- The last most 8 power-down histories are displayed with the hour-meter values that indicate the hours when power-downs occurred.
- When power-down is confirmed, the factor is displayed as "1st", "2nd", according to the accuracy order.
- The power-down history is not recorded when the power-down occurred at the same place and same time.

<Causes of power-down and corresponding OSD indications>

Cause of power-down	OSD Indication	Cause of power-down	OSD Indication
POWER SUPPLY Unit	P-PWR	ADDRESS Assy	ADRS
SCAN Assy	SCAN	DC/DC converter for X drive	X-DCDC
5 V power for SCAN	SCN5V	X-SUS	X-SUS
DC/DC converter for Y drive	Y-DCDC	DIG-DCDC	D-DCDC
Y-SUS	Y-SUS	Unknown	UNKNOW

[2-4] SHUT DOWN

- The shutdown history of panel section is displayed. No other layers are nested below this layer, and there are no adjustment items.

		1	5	10	15	20	25	30	32	
1		PANEL	FACT.			IN1-30602-RGB-JHB				
	AREA1	SHUT	DOWN							
5	2	MAIN		SUB		000124H	23M			
	3									
	4	1	TMP-NG	TMP-H		000124H	21M			
	5	2	SQ-LSI	RTRY		000115H	05M			
	6	3	MD-DEV	DAC		000107H	53M			
	7	4	SQ-LSI	VER-HS		000098H	47M			
10	8	5	MD-DEV	BACKUP		000051H	30M			
	9	6	SQ-LSI	BUSY		000012H	07M			
	A	7					H	M		
	B	8								
	C									
	D									
15										
16	E									

■ Key operation

- <DOWN> : Shifting to PANEL-1 ADJ (+)
- <UP> : Shifting to POWER DOWN
- <L/R> : Updating displayed information

■ Contents of the Display item

- The shutdown history is displayed. The last most 8 shutdown histories are displayed with the hour-meter values that indicate the hours when shutdowns occurred.
- When there is detail information when shutdown occurred, the possible defective part is displayed as Sub information.
- The shutdown history is not recorded when the shutdown occurred at the same place and same time.

<Cause of shutdown and corresponding OSD Indication >

Cause of shutdown (MAIN)		Cause of shutdown (SUB)	
Main cause	OSD Indication	Sub cause	OSD Indication
SQ_LSI	SQ_LSI	Communication Error	RTRY
		Drive Stop	SQNO
		Busy	BUSY
		Version mismatching (H/S)	VER-HS
		Version mismatching (H/M)	VER-HM
		Version mismatching (H/I)	VER-HI
MDU-DEVICE	MD-DEV	Digital EEPROM	EEPROM
		Backup EEPROM	BACKUP
		DAC IC	DAC
Abnormally in RST2 power supply	RST2	—	—
Abnormally in panel temperature	TMP-NG	High temperature of the panel	TMP-H
		Low temperature of the panel	TMP-L

<Next nested layer of PANEL-1 ADJ (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C Command	Remarks
1	Vsus voltage	VOL SUS <=>	000 to 255	Factory adjustment value	VSU	
2	Vysnfs voltage	VOL OFFSET <=>			VOF	
3	Vyprst voltage	VOL RST P <=>			VRP	
4	Vxpofs1 voltage	VOL XPOFS1 <=>			VX1	
5	Vxpofs2 voltage	VOL XPOFS2 <=>			VX2	
6	Vyknofs1,2 voltage	VOL YKNOFS1 D <=>			V1F	
7	Vyknofs3 voltage	VOL YKNOFS3 D <=>			V3F	
8	Vyknofs4 voltage	VOL YKNOFS4 D <=>			V4F	
9	Δ Vyknofs1,2/3/4	VOL YKNOFSA D <=>			VYF	
10	First reset (wedge width)	RESET1ST_KSB <=>	112 to 144	128	R1K	Factory use item
11	Second reset (wedge width)	RESET2ND_KSB <=>			R2K	
12	1SF - Y sus tail (wedge width)	YSTL_1SF_KSB <=>			Y1K	
13	1SF - Y sus tail (resonance down width)	YSTL_1SF_HZ <=>			Y1Z	
14	3SF and later - first X sus (resonance up width)	XSUS_1ST_B <=>			X1B	
15	2SF - second Y sus (resonance up width)	YSUS_2ND_B <=>			Y2B	
16	2SF - third X sus (resonance up width)	XSUS_3RD_B <=>			X3B	
17	2SF - repeat Y sus (resonance up width)	YSUS_B <=>			YSB	
18	2SF - repeat X sus (resonance up width)	XSUS_B <=>			XSB	
19	3SF and later - Y sus tail (wedge width)	YSTL_KSB <=>			YTK	
20	3SF and later - Y sus tail (resonance down width)	YSTL_HZ <=>			YTZ	
21	2SF - Y sus tail (wedge width)	YSTL_2SF_KSB <=>			Y2K	
22	2SF - Y sus tail (resonance down width)	YSTL_2SF_HZ <=>			Y2Z	
23	3SF and later (2 pulses of SSF) - Y sus tail (wedge width)	YSTL_FMR_KSB <=>			YNK	
24	Timing between Scan and Address	SCAN ADRS ADJ <=>			SAT	
25	SUS frequency (AM radio anti-jamming)	SUS FREQ <=>	MODE1 to 8	MODE1	SFR	Note

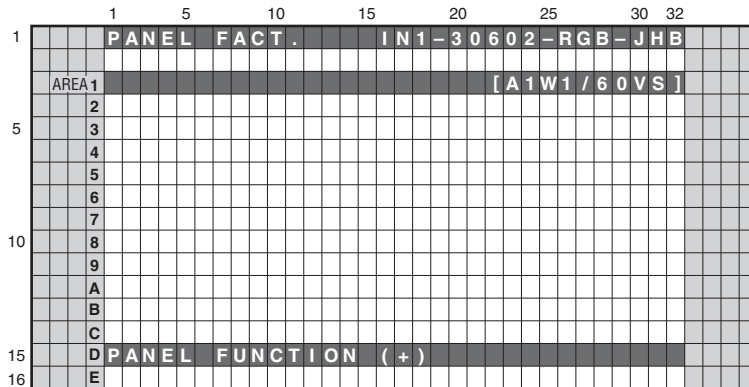
Note: It is necessary to turn OFF and ON the power for reflecting the setting change.

PDP-LX6090

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/
setting value
<LEFT> : Subtracting by one from the
adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/
setting value
<VOL-> : Subtracting by 10 from the
adjustment/setting value
<SET> : Determining the adjustment/setting
value and shifting to the upper layer

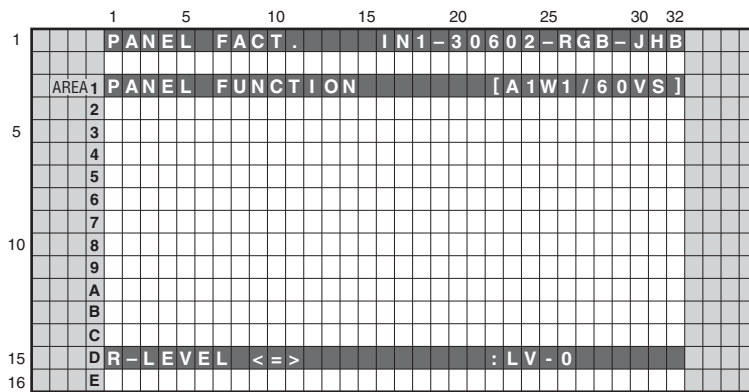
[2-7] PANEL FUNCTION (+)

- A level setting for panel degradation correction can be made. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



■ Key operation

- <DOWN> : Shifting to ETC.(+)
- <UP> : Shifting to PANEL-2 ADJ (+)
- <SET> : Shifting to the next nested layer



■ Key operation

- <DOWN> : Shifting to the next item
- <UP> : Shifting to the previous item
- <RIGHT> : Adding by one to the adjustment/setting value
- <LEFT> : Subtracting by one from the adjustment/setting value
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

<Next nested layer of PANEL FUNCTION (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C COMMAND	Remarks
1	R deterioration correction LEVEL	R-LEVEL <=>	Lv-10 to 7	Lv-3	RRL	Factory use item (Note)
2	G deterioration correction LEVEL	G-LEVEL <=>		Lv-2	RGL	
3	B deterioration correction LEVEL	B-LEVEL <=>		Lv-0	RBL	
4	L1 address	ADDRESS L1 <=>	PH0 to 9	PH2	AP0	
5	L2 address	ADDRESS L2 <=>		PH3	AP0	
6	L3 address	ADDRESS L3 <=>		PH2	AP1	
7	L4 address	ADDRESS L4 <=>		PH1	AP1	
8	U1 address	ADDRESS U1 <=>		PH2	AP2	
9	U2 address	ADDRESS U2 <=>		PH3	AP2	
10	U3 address	ADDRESS U3 <=>		PH2	AP3	
11	U4 address	ADDRESS U4 <=>		PH1	AP3	
12	Streaking correction	STK MODE <=>	OFF to MODE1 to 8	MODE1	SKM	Factory use item
13	Black display mode	FULL BLACK <=>	OFF to MODE1	MODE1	FBM	
14	Panel Rx characteristic	PANEL RX <=>	000 to 999	Factory adjustment value	PRX	
15	Panel Ry characteristic	PANEL RY <=>	000 to 999		PRY	
16	Panel Gx characteristic	PANEL GX <=>	000 to 999		PGX	
17	Panel Gy characteristic	PANEL GY <=>	000 to 999		PGY	
18	Panel Bx characteristic	PANEL BX <=>	000 to 999		PBX	
19	Panel By characteristic	PANEL BY <=>	000 to 999		PBY	
20	Color sensor R coefficient	CLS R <=>	000 to 255	128	CSR	
21	Color sensor G coefficient	CLS G <=>	000 to 255	128	CSG	
22	Color sensor B coefficient	CLS B <=>	000 to 255	128	CSB	

Note: It is necessary to turn OFF and ON the power for reflecting the setting change.

A [2-8] ETC. (+)

- Clearance of various log data for the panel and changing of settings for which setting data were not stored upon last update can be performed.

Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.

		1	5	10	15	20	25	30	32
1		PANEL	FACT.			IN1-30602-RGB-JHB			
	AREA1					[A1W1/60VS]			
	2								
5	3								
	4								
	5								
	6								
	7								
10	8								
	9								
	A								
	B								
	C								
15	D	ETC. (+)							
16	E								

■ Key operation

- <DOWN> : Shifting to RASTER MASK SETUP (+)
 <UP> : Shifting to PANEL FUNCTION (+)
 <SET> : Shifting to the next nested layer

		1	5	10	15	20	25	30	32
1		PANEL	FACT.			IN1-30602-RGB-JHB			
	AREA1	ETC.				[A1W1/60VS]			
	2								
5	3								
	4								
	5								
	6								
	7								
10	8								
	9								
	A								
	B								
	C								
15	D	BACKUP DATA <=>				: NO OPRT			
16	E								

■ Key operation

- <DOWN> : Shifting to the next item
 <UP> : Shifting to the previous item
 <RIGHT> : Adding by one to the adjustment/setting value
 <LEFT> : Subtracting by one from the adjustment/setting value
 <SET> : Determining the adjustment/setting value and shifting to the upper layer

D <Next nested layer of ETC (+)>

No.	Item	OSD Indication	Processing Contents	RS-232C COMMAND	Remarks
1	Backup EEPROM data	BACKUP DATA <=>	• NO OPRT (No operation) • TRANSFER (Backup data transmission)	BCP	
2	Digital EEPROM data	DIGITAL EEPROM <=>	• NO OPRT (No operation) • REPAIR (Adjustment is complete) • DELETE (Adjustment is not complete)	FAJ/UAJ	
3	PD history	PD INFO. <=>	• NO OPRT (No operation) • CLEAR (Data clear)	CPD	
4	SD history	SD INFO. <=>		CSD	
5	HOURLY METER	HR-MTR INFO. <=>		CHM	
6	Pulse meter	PM/B1-B5 <=>		CPM	
7	PON counter	P COUNT INFO. <=>		CPC	
8	Maximum temperature	MAX TEMP. <=>		CMT	
9	Mirror reversing display	MIRROR <=>	• Mirror reversing display OFF • MODE1 (Right and left reversing) • MODE2 (Top and bottom reversing) • MODE3 (Right and left, Top and bottom reversing)	MIR	The indication on the menu is also highlighted. The setting is canceled upon power-off.
10	Color sensor mode	CLS <=>	• Color sensor operation OFF • Color sensor operation ON	CSF	

[2-9] RASTER MASK SETUP (+)

- This menu set the RASTER MASK and the drive sequence at RASTER MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.

			1		5		10		15		20		25		30	32																	
1				P	A	N	E	L	F	A	C	T	.			I	N	1	-	3	0	6	0	2	-	R	G	B	-	J	H	B	
			AREA1																														
			2																														
5			3																														
			4																														
			5																														
			6																														
			7																														
10			8																														
			9																														
			A																														
			B																														
			C																														
15				D	R	A	S	T	E	R		M	A	S	K		S	E	T	U	P		(+)								
16				E																													

■ Key operation

- <DOWN> : Shifting to PATTERN MASK SETUP (+)
- <UP> : Shifting to ETC. (+)
- <SET> : Shifting to the next nested layer

			1	5	10	15	20	25	30	32																								
1			PANEL FACT.										IN1-30602-RGB-JHB																					
	AREA1		RASTER MASK SETUP										[A1W1/60VS]																					
		2																																
		3																																
		4																																
		5																																
		6																																
		7																																
10		8																																
		9																																
		A																																
		B																																
		C																																
15		DRST MASK 01										: 60V																						
16		E																																

■ Key operation

- <DOWN> : Shifting to the next MASK
- <UP> : Shifting to the previous MASK
- <RIGHT> : Changing MASK sequence (+)
- <LEFT> : Changing MASK sequence (-)
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of RASTER MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKR/VFQ	
2	Display raster mask 01	RST MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
26	Display raster mask 25	RST MASK 25 <=>			

A [2-10] PATTERN MASK SETUP (+)

- This menu set the PATTERN MASK and the drive sequence at PATTERN MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.

		1	5	10	15	20	25	30	32
1		PANEL	FACT.			IN1-30602-RGB-JHB			
	AREA1					[A1W1/60VS]			
	2								
5	3								
	4								
	5								
	6								
B	7								
10	8								
	9								
	A								
	B								
	C								
15	D	PATTERN	MASK	SETUP	(+)				
16	E								

■ Key operation

- <DOWN> : Shifting to COMBI MASK SETUP (+)
- <UP> : Shifting to RASTER MASK SETUP (+)
- <SET> : Shifting to the next nested layer

		1	5	10	15	20	25	30	32
1		PANEL	FACT.			IN1-30602-RGB-JHB			
	AREA1	PATTERN	MASK	SETUP		[A1W1/60VS]			
	2								
5	3								
	4								
	5								
	6								
10	7								
	8								
	9								
	A								
	B								
	C								
15	D	PTN	MASK	01		: 60V			
16	E								

■ Key operation

- <DOWN> : Shifting to the next MASK
- <UP> : Shifting to the previous MASK
- <RIGHT> : Changing MASK sequence (+)
- <LEFT> : Changing MASK sequence (-)
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of PATTERN MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKS/VFQ	
2	Display raster mask 01	PTN MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
50	Display raster mask 49	PTN MASK 49 <=>			

[2-11] COMBI MASK SETUP (+)

- This menu set the COMBI MASK and the drive sequence at COMBI MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.

		1	5	10	15	20	25	30	32
1		PANEL	FACT.			IN1-30602-RGB-JHB			
	AREA1					[A1W1/60VS]			
2									
3									
4									
5									
6									
7									
8									
9									
A									
B									
C									
D		COMBI MASK SETUP (+)							
E									

■ Key operation

- <DOWN> : Shifting to PANEL INFORMATION
- <UP> : Shifting to PATTERN MASK SETUP (+)
- <SET> : Shifting to the next nested layer

		1	5	10	15	20	25	30	32
1		PANEL	FACT.			IN1-30602-RGB-JHB			
	AREA1	COMBI MASK SETUP				[A1W1/60VS]			
2									
3									
4									
5									
6									
7									
8									
9									
A									
B									
C									
D		CMB MASK 01				: 60V			
E									

■ Key operation

- <DOWN> : Shifting to the next MASK
- <UP> : Shifting to the previous MASK
- <RIGHT> : Changing MASK sequence (+)
- <LEFT> : Changing MASK sequence (-)
- <SET> : Determining the adjustment/setting value and shifting to the upper layer

- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of COMBI MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKC/VFQ	
2	Display raster mask 01	CMB MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
18	Display raster mask 17	CMB MASK 17 <=>			

A [3] OPTION

Operation item

No.	Function	Content	RS-232C
[3-1]	CH PRESET <=>	Set the channel map for production line	SCP
[3-2]	Digital AFT <=>	Set AFT of the Satellite digital broadcasting (*1)	AFT
[3-3]	SYNC DET (+)	Set the synchronized signal detection of VDEC	----
[3-4]	CTI (+)	Set the synchronized signal detection of VDEC	----

(*1): PDP-LX6090H only

B

[3-1] CH PRESET <=>

Exclusively used for production line.

[3-2] Digital AFT <=>

Exclusively used for production line.

C [3-3] SYNC DET (+)

Exclusively used for technical analysis (details omitted).

[3-4] CTI (+)

Exclusively used for technical analysis (details omitted).

D

E

F

[4] INITIALIZE

Operation item

No.	Function	Content	RS-232C
[4-1]	SIDE MASK LEVEL (+)	Configure the color of the side mask.	SML
[4-2]	FINAL SETUP (+)	Initialize flash memories on virgin product status	FST
[4-3]	DTB SERVICE MODE (+)	Enter the Digital Tuner Service Menu (*1)	----
[4-4]	Wide XGA AUTO <=>	Exclusively used for technical analysis.	----
[4-5]	AUTO ADJUSTMENT (+)	Perform the auto-adjustment setting process	----

(*1): PDP-LX6090H only

[4-1] SIDE MASK LEVEL (+)

	1	5	10	15	20	25	30	35	40
1									
5									
10									
15									
16									

To configure sidemask level (To adjust the values, input signal is required).

Display Item	Content	RS-232C
SIDE MASK LEVEL <=>	Adjust Side Mask level (Adjustable range: 000 to 255, Initial value: 115)	SML

Note: In this mode (SIDE MASK LEVEL), adjustment value cannot be changed with the VOLUME +/- keys.

[4-2] FINAL SETUP (+)

	1	5	10	15	20	25	30	35	40
1									
5									
10									
15									
16									

- To reset each memory value to factory default values. Factory command is "FST".
- When the configuration is set to <NO> and the [ENTER/SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <YES> and the [ENTER/SET] key is pressed for 5 seconds, the reset action executes.

Be sure to disconnect and connect the AC cable after FINAL SETUP.

When replacing the MAIN Assy, the FINAL SETUP is required.

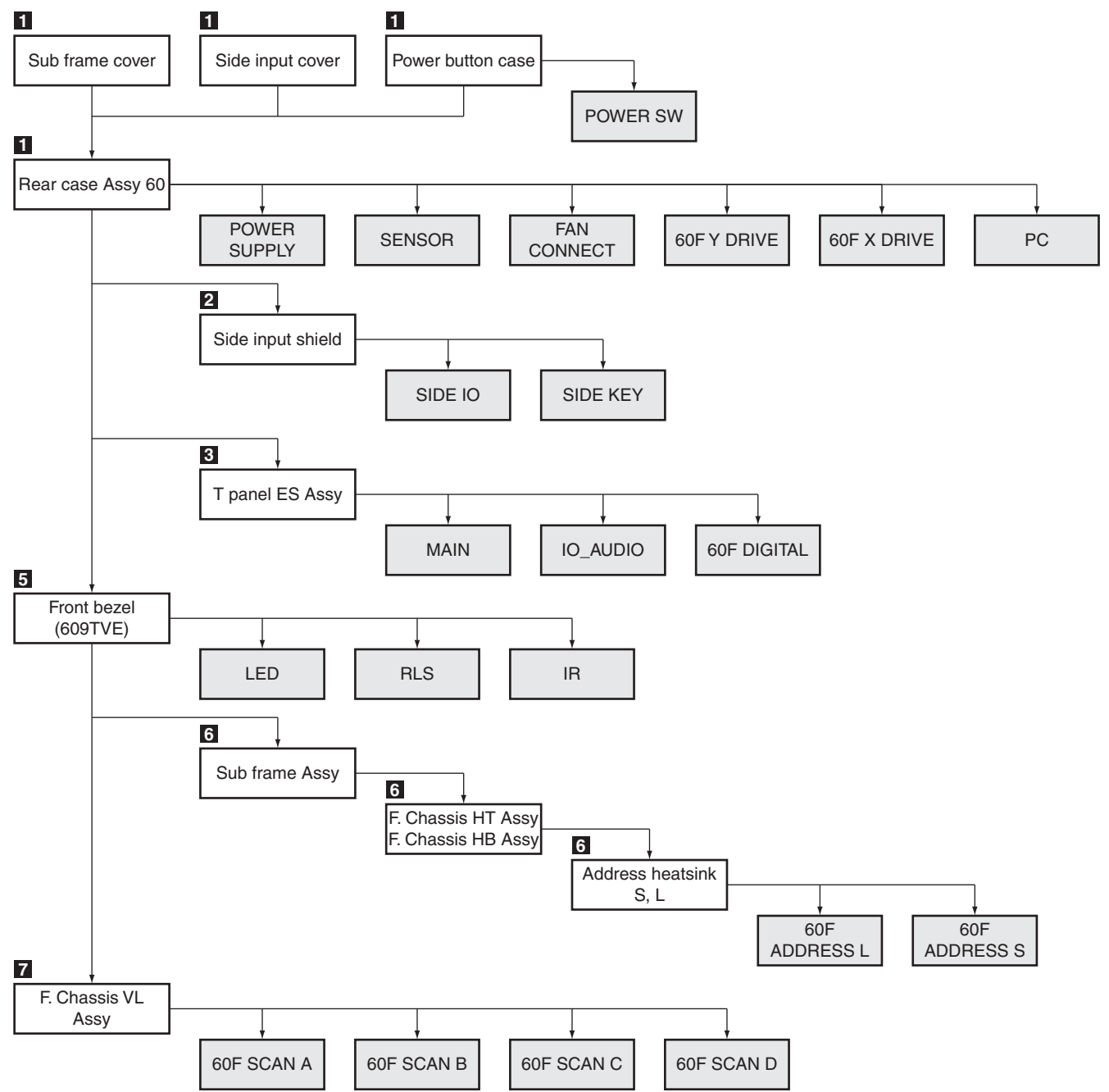
7. DISASSEMBLY

7.1 FLOWCHART OF REMOVAL ORDER

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Flowchart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:



A

B

C

D

E

F

Disassembly

1 Rear Case 60

● Power button case

- ① Remove the two screws. (ABA1379)
- ② Remove the power button case.

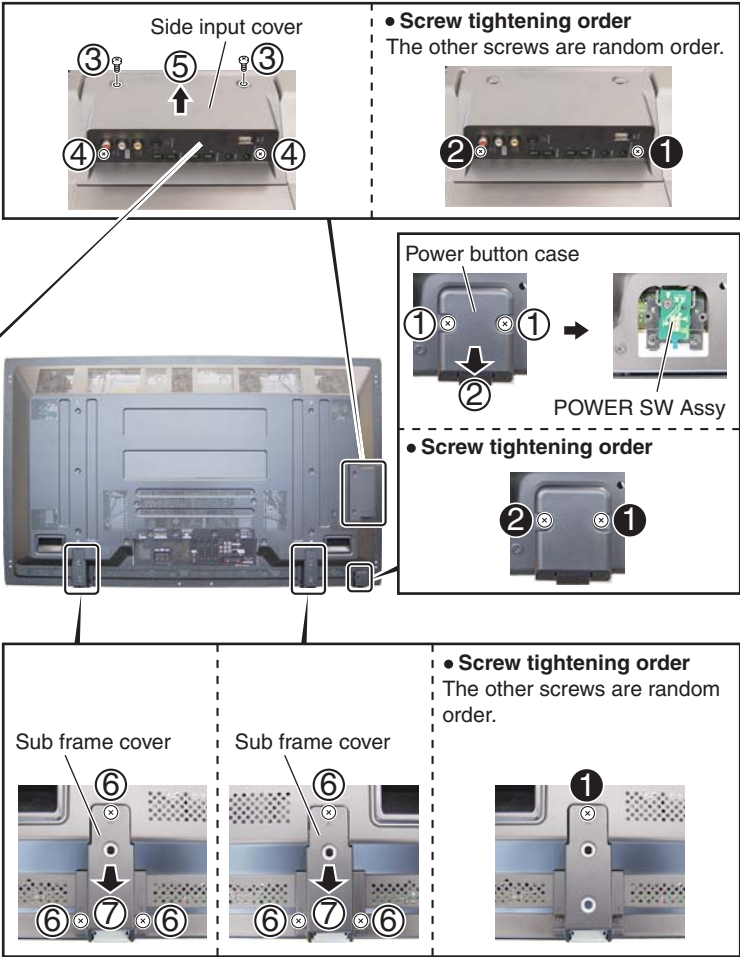
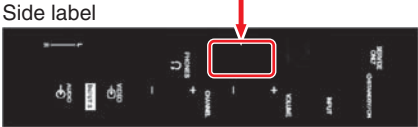
● Side input cover

- ③ Remove the two screws. (ABA1378)
- ④ Remove the two screws. (ABA1377)
- ⑤ Remove the side input cover.

● Sub frame cover

- ⑥ Remove the six screws. (ABA1377)
- ⑦ Remove the two sub frame covers.

A cutout for an HDMI connector is provided on the side input cover, and the side label is attached over the cutout. Be careful not to accidentally push on the area of the label indicated in the figure below, because that area will become indented.

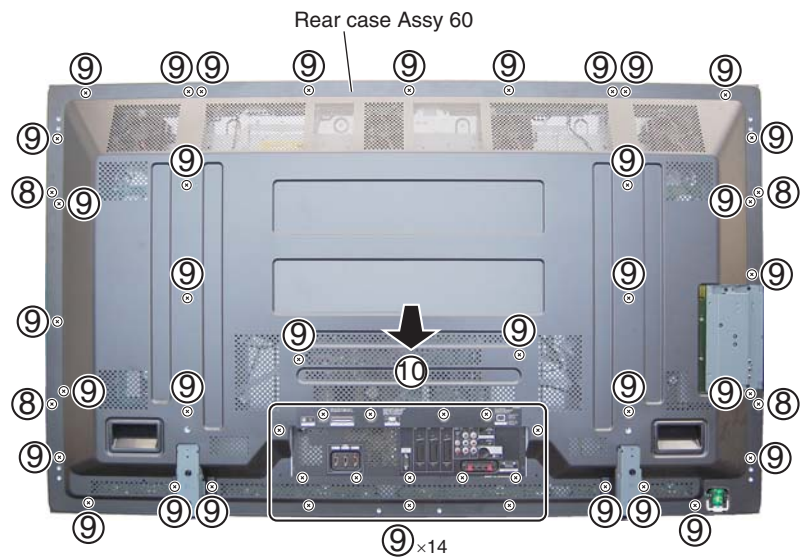


● Rear case Assy 60

⑧ Remove the four screws. (ABA1380)

⑨ Remove the 47 screws. (ABA1377)

⑩ Remove the rear case Assy 60.



■ Screw tightening order

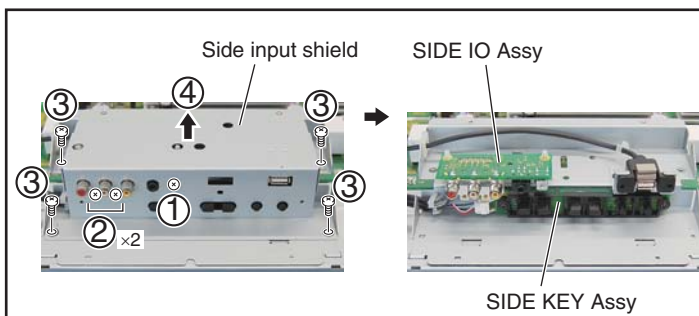
The other screws are random order.



A

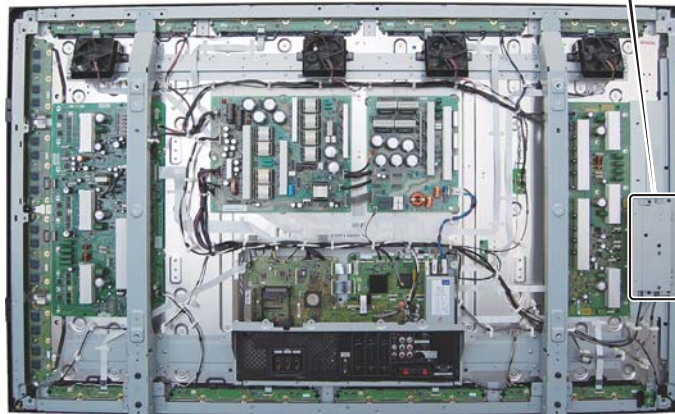
2 Side Input Shield

- ① Remove the one screw. (BMZ30P080FTB)
- ② Remove the two screws. (BPZ30P080FTB)
- ③ Remove the four screws. (AMZ30P060FTB)
- ④ Remove the side input shield.



• Screw tightening order

The other screws are random order.



C

D

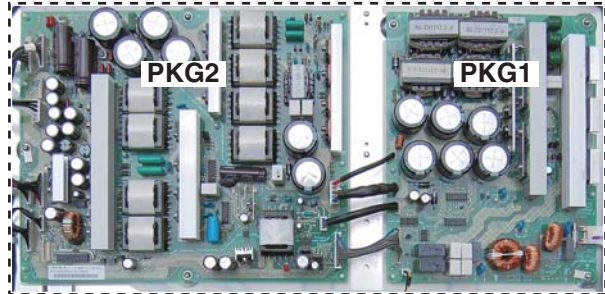
E

F

Notes on Removing the POWER SUPPLY Unit

1. Construction of the POWER SUPPLY Unit

The POWER SUPPLY Unit comprises two boards, which must be replaced at the same time. (These boards are delivered as a set if ordered.)



POWER SUPPLY Unit

2. Discharge of residual electric charge

Immediately after the power cord is unplugged, residual electric charge remains for about 3-5 minutes in the capacitor inside the POWER SUPPLY Unit.

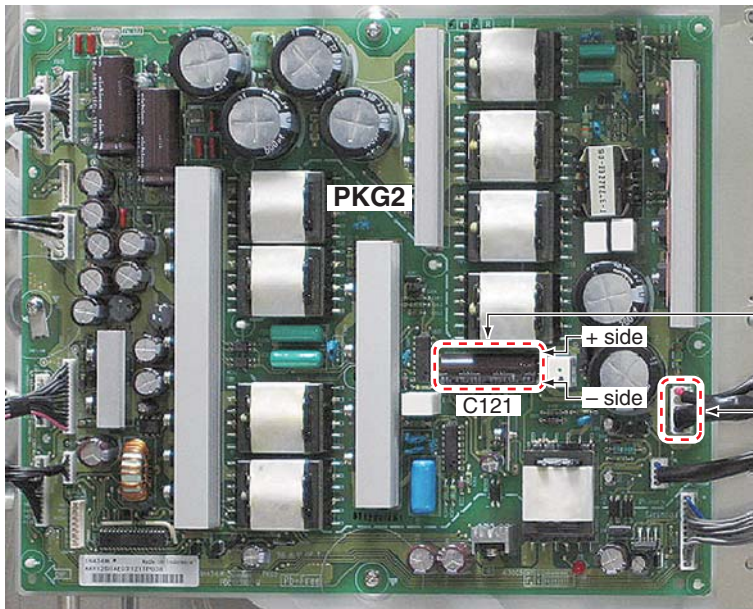
Before removing the POWER SUPPLY Unit, make sure that residual electric charge has fallen to a safe level.

How to discharge residual electric charge rapidly

Discharge residual electric charge by connecting two 220 Ω (10 W) forced discharging resistors (440 Ω in total,) one to each end, of C121.

<How to remove the POWER SUPPLY Unit>

- ① Make sure that the power cord is unplugged. Check the voltage of both ends of C121 on the PKG2, using a tester.
- ② Wait until the voltage at both ends of C121 has fallen to 5 V or less.
- ③ When the voltage becomes less than 5 V, disconnect the connectors of the POWER SUPPLY Unit then remove it.



Points of checking residual electric charge:

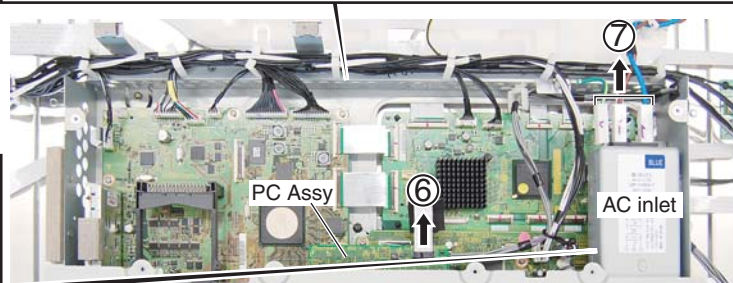
After making sure that the voltage of both ends of C121 has fallen to 5 V or less, disconnect the PFC connector.

PFC connector

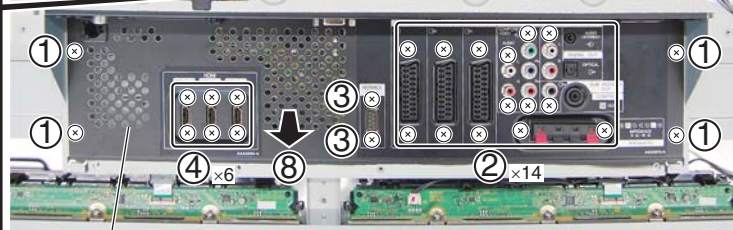
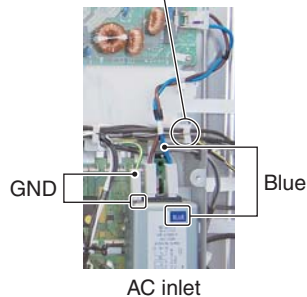
P14

3 T Panel ES Assy

- ① Remove the 10 screws. (ABA1377)
- ② Remove the 14 screws. (BPZ30P080FTB)
- ③ Remove the two hexagon head screws. (ABA1382)
- ④ Remove the six screws. (BMZ30P060FTB)
- ⑤ Remove the card lid.
- ⑥ Disconnect the one flexible cable.
- ⑦ Disconnect the three connectors.
- ⑧ Remove the T panel ES Assy.



Do NOT pass the AC inlet jumper wire through this wire saddle.



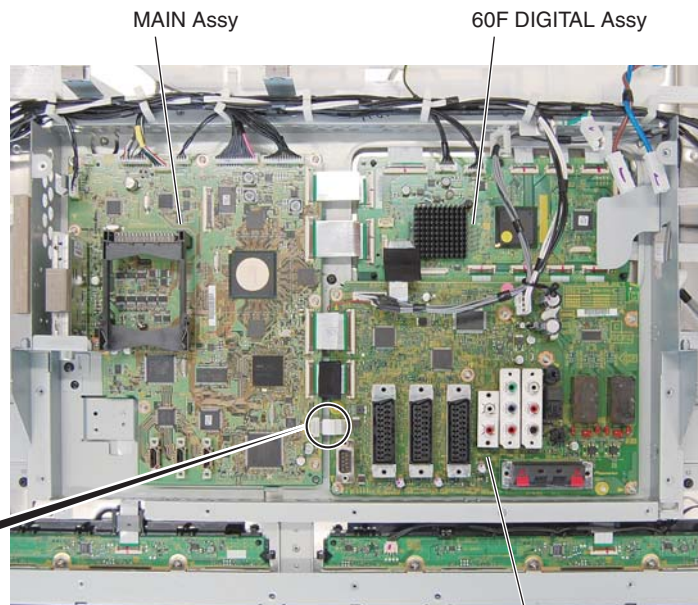
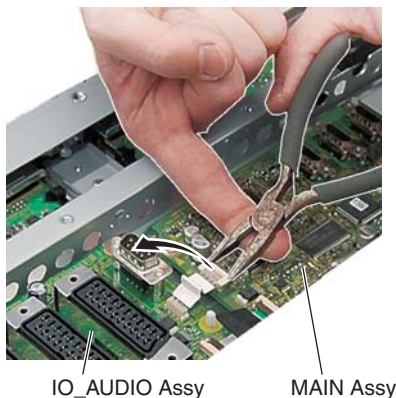
T panel ES Assy



Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

How to remove the bridge connector

- (1) Grip the two short edges of the connector with longnose pliers.
- (2) Insert a finger between the longnose pliers and the board to protect the board and the mounted parts on the board from accidental damage by the pliers then, using your finger as a fulcrum and the pliers as a lever, pry the connector upward to remove it.



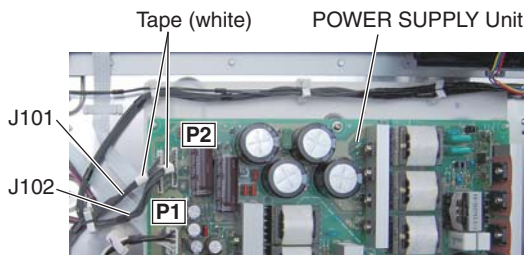
IO_AUDIO Assy



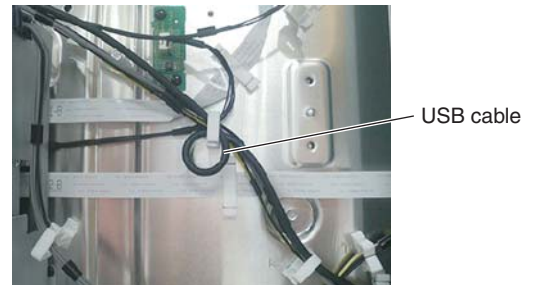
Notes on Lead Dressing

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

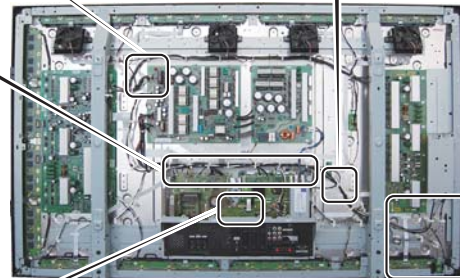
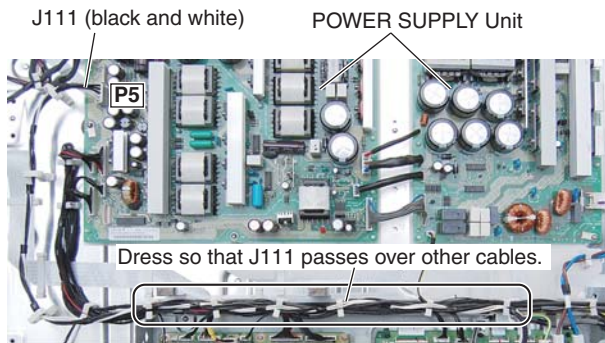
The J101 and J102 cables require correct orientation for connection. Connect the connectors with white tape to the POWER SUPPLY Unit.



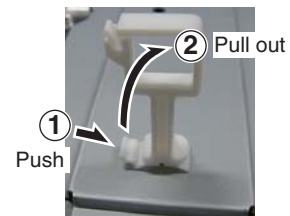
If the USB cable is wound around the clamp (as shown in the photo) upon disassembly, wind the cable as it was when reassembling.



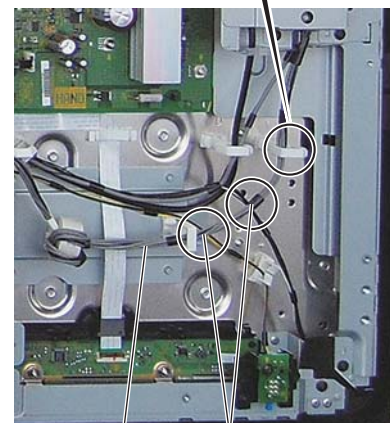
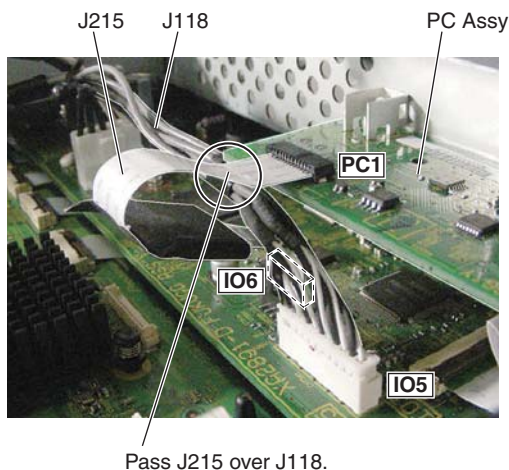
Around the periphery of the Multibase, the J111 cable wires (black and white) must be bound lastly then be dressed so that they pass over other cables.



How to remove the newly adopted wire saddle from the chassis



The J215 cable must be passed over the J118 cable.



Dress the J118 cable so that it passes over other cables.

4 Access to 60F DIGITAL Assy

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

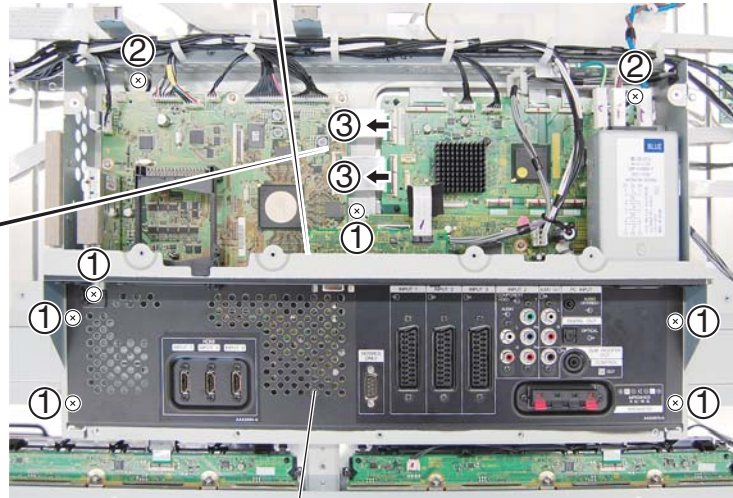
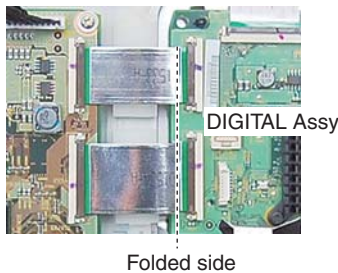
Note:

When you remove whole Multibase Section, it is not necessary to remove T panel ES Assy.

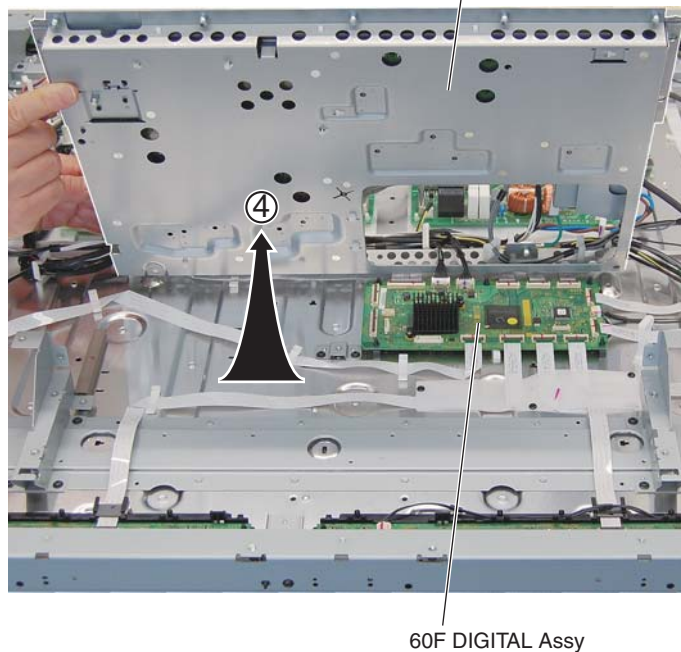
- ① Remove the eight screws. (ABA1377)
- ② Remove the two screws. (ABA1351)
- ③ Disconnect the two flexible cables.

Note on connection of the flexible cable

This flexible cables requires correct orientation for connection. Connect the folded side of the cable to the connector on the DIGITAL Assy, as shown in the photo below. **Reversely connecting the cable will damage the Assy.**

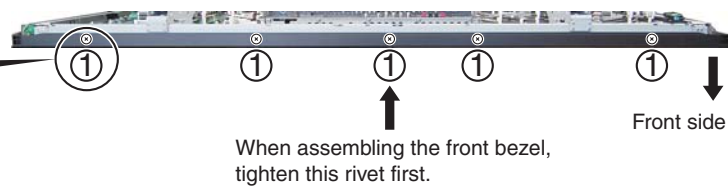
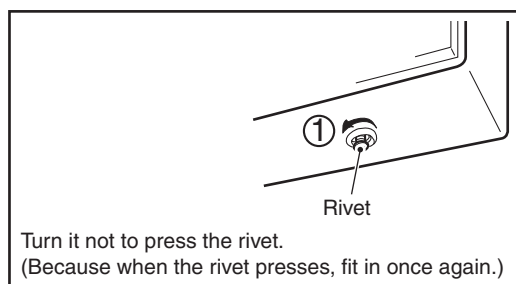
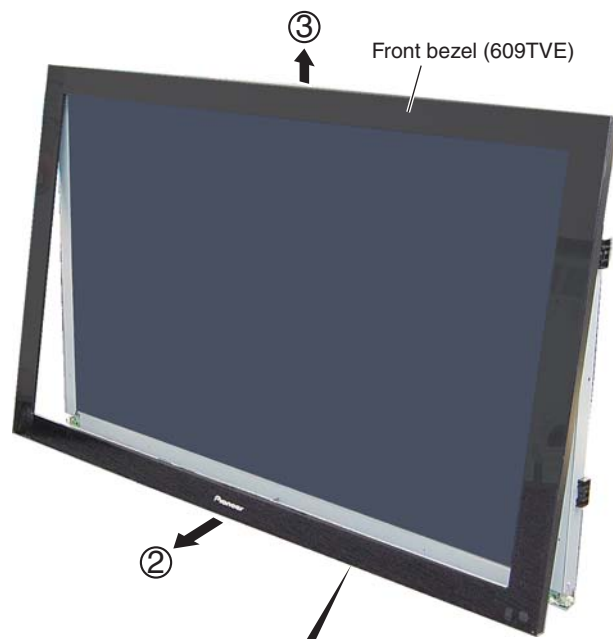


- ④ Lift the Multibase Section to the direction of the arrow.



5 Front Bezel (609TVE)

- ① Remove the five rivets.
- ② Pull the lower part of the front bezel (609TVE) toward you and out.
- ③ Remove the front bezel (609TVE), by pulling it upward.



LED Assy



RLS Assy

IR Assy

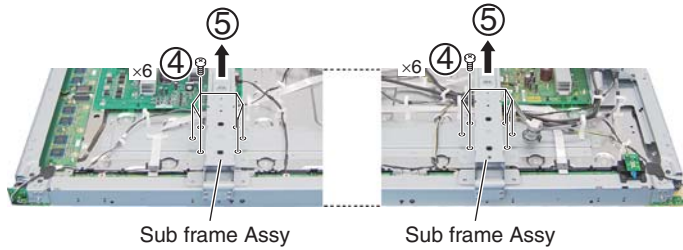
6 Access to ADDRESS L and S Assys

● Sub frame Assy

- ① Disconnect cables, connectors, as required.
- ② Remove the four screws. (AMZ30P060FTB)
- ③ Remove the eight screws. (TBZ40P060FTC)

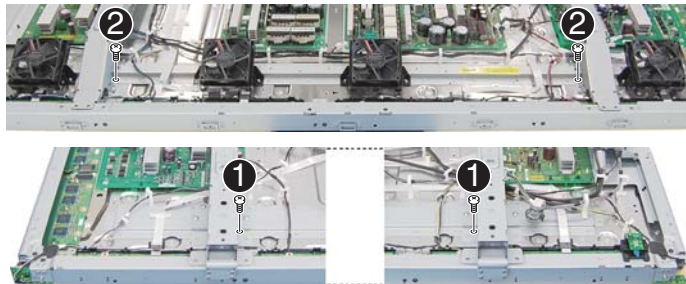


- ④ Remove the 12 screws. (TBZ40P060FTC)
- ⑤ Remove the two sub frame Assys.



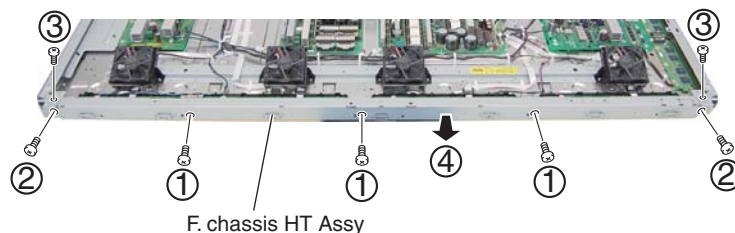
■ Screw tightening order

The other screws are random order.



● F. Chassis HT Assy

- ① Remove the three screws. (APZ30P080FTB)
- ② Remove the two screws. (ABZ30P080FTC)
- ③ Remove the two screws. (AMZ30P060FTB)
- ④ Remove the F. chassis HT Assy.



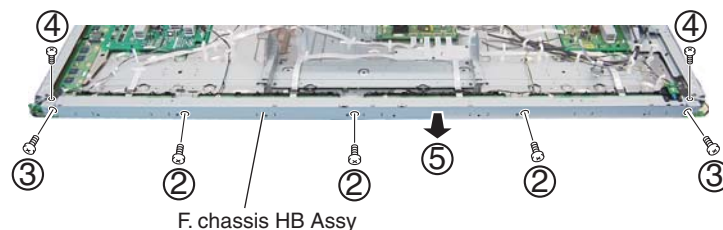
■ Screw tightening order

The other screws are random order.



● F. Chassis HB Assy

- ① Disconnect cables, connectors, as required.
- ② Remove the three screws. (APZ30P080FTB)
- ③ Remove the two screws. (ABZ30P080FTC)
- ④ Remove the two screws. (AMZ30P060FTB)
- ⑤ Remove the F. chassis HB Assy.



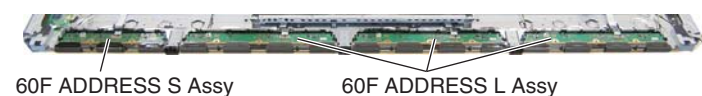
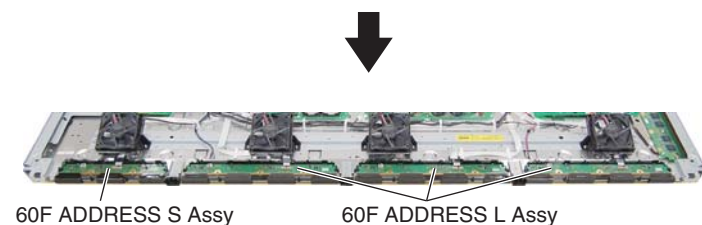
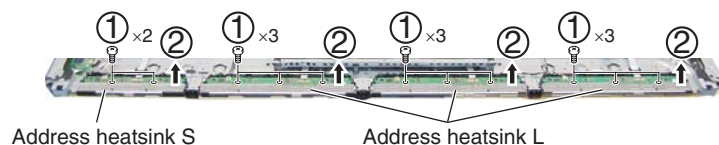
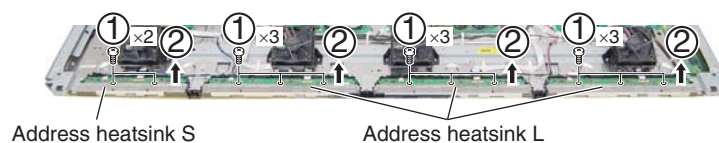
■ Screw tightening order

The other screws are random order.



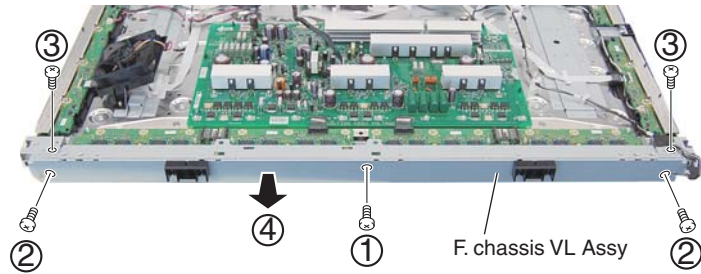
● Address heatsink S , L

- ① Remove the 22 screws. (ABA1351)
- ② Remove the two address heatsinks S and six address heatsinks L.



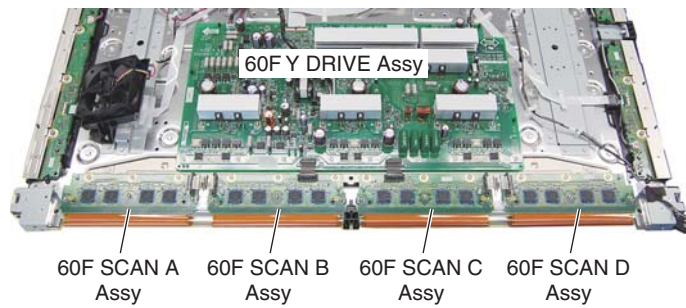
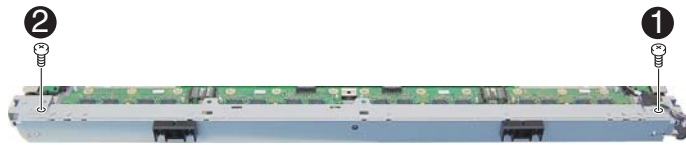
7 Access to SCAN A, B, C and D Assys

- ① Remove the one screw. (APZ30P080FTB)
- ② Remove the two screws. (ABZ30P080FTC)
- ③ Remove the two screws. (AMZ30P060FTB)
- ④ Remove the F. chassis VL Assy.



Screw tightening order

The other screws are random order.



8. EACH SETTING AND ADJUSTMENT



1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	➡	Refer to "8.3 HOW TO CLEAR HISTORY DATA".
DIGITAL Assy	➡	Writing of backup data is required. Refer to the "8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)".
X DRIVE Assy	➡	No adjustment required
Y DRIVE Assy	➡	No adjustment required
Service Panel Assy	➡	Refer to "8.3 HOW TO CLEAR HISTORY DATA" and "8.4 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED".
MAIN Assy (*)	➡	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
IO AUDIO Assy	➡	Execute section [4-5] AUTO ADJUSTMENT of 6.2 [4] INITIALIZE.
PANEL SENSOR Assy	➡	No adjustment required Backup data are automatically copied during the next power-off.
Other assemblies	➡	No adjustment required

(*) : When replacing the MAIN Assy, be sure to perform the FINAL SETUP.

■ When any of the following assemblies is repaired

Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.

If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2555	MAIN Assy	IC5002	EEPROM	BR24L02FV-W
		IC5003	EEPROM	BR24L02FV-W
		IC5004	EEPROM	BR24L02FV-W
		IC7004	EEPROM	BR24L64F-W
		IC6701	Flash ROM	AGC1080
		IC6811	Flash UCOM	AGC1072
		IC7202	Flash ROM	AGC1075
		IC7205	Flash ROM	AGC1076
AWV2538	DIGITAL Assy	IC3302	Flash ROM	AGC1069
		IC3601	Flash UCOM	AGC1068
AWW1359	PC Assy	IC8802	EEPROM	BR24L01AFJ-W
AWW2540	X DRIVE Assy	• Parts of X D-D CON BLOCK		
AWW2541	Y DRIVE Assy	• Parts of Y VF D-D CON BLOCK 1		
		• Parts of Y MAIN D-D CON BLOCK 1		
		• Parts of Y MAIN D-D CON BLOCK 2		

Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

For the parts described in the table below, replacement of individual parts is difficult, because a heat pad is provided under the bottom of the ICs.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2555	MAIN Assy	IC4501	DC/DC Converter	LTC3407EMSE-2
		IC4901	HDMI Rx	SII9125CTU
AWW1354	IO AUDIO Assy	IC8401	Digital Amp	TAS5122DCA

POWER SUPPLY Unit	➡	The assembly must be replaced as a unit, and no part replacement is allowed.	A
MAIN Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED."	
IO AUDIO Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.7 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED."	
DIGITAL Assy	➡	No adjustment required	B
X DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED."	
Y DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in "8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED."	
ADDRESS Assy	➡	No adjustment required	C
PANEL SENSOR Assy	➡	No adjustment required	
Other assemblies	➡	No adjustment required	

D

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■ Outline

Adjustment data are stored in the EEPROM on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup) on the PANEL SENSOR Assy.
If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the PANEL SENSOR Assy to a new DIGITAL Assy.

■ Backed up data

- B
- Drive voltage adjustment value
 - Panel white balance adjustment value
 - Drive waveform adjustment value
 - Hour-meter count

- Pulse-meter count
 - P-ON counter value
 - Serial No.
 - PD/SD histories

■ How to copy backup data

1. When the DIGITAL Assy is replaced with one for service (usual service)

Immediately after the DIGITAL Assy is replaced, the EEPROM on the DIGITAL Assy is in the status "adjustment not completed," and the EEPROM for backup on the PANEL SENSOR Assy is in the status "adjustment completed." The LED on the main unit warns you that the adjustment data in the EEPROM for backup have not been copied to the EEPROM on the DIGITAL Assy, by lighting the red LED and flashing the blue LED. In such a case, the adjustment data for backup can be used by copying the data to the EEPROM on the DIGITAL Assy, with the following procedures:

C

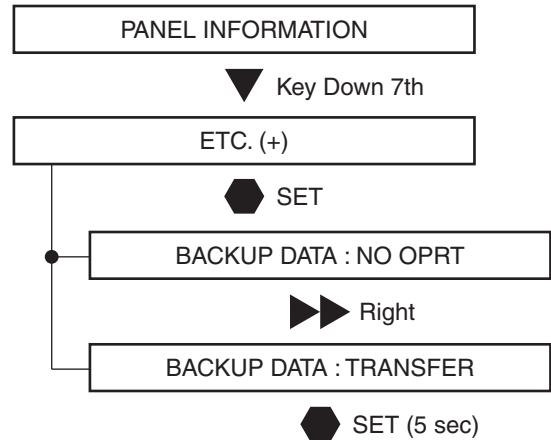
(1) Copying, using the Factory menu

-
- ① Turn on the power.

② Enter the Panel Factory mode.

③ Display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP" and "ADJUSTED" is set for "BACKUP".

④ Copy the backup data, as shown in the figure below.



- E
- ⑤ Check if "ADJUSTED" is set for "DIG. EEP" on the PANEL INFORMATION page.

⑥ Turn off the power.

■ (2) Copying, using the RS-232C commands

-
- ① Turn on the power.

② Issue the FAY command.

③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment not completed" and that the adjustment backup flag is "adjustment completed."

④ Issue the BCP command to transfer the data stored in the EEPROM for backup.

⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment completed."

⑥ Turn off the power.

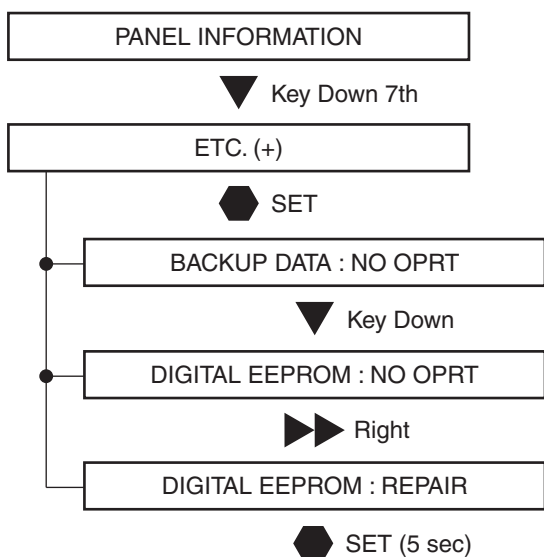
F **Note:** If both the DIGITAL and PANEL SENSOR Assys are to be replaced, replace the PANEL SENSOR Assy first in order to store the backup data. Then turn the unit on then back off again, then replace the DIGITAL Assy.

2. When manual adjustment is required after the DIGITAL Assy is replaced with one for service

If backup data cannot be transferred to the DIGITAL Assy because of defective parts, etc., after the DIGITAL Assy is replaced and manual adjustment is performed, those manually adjusted data can be registered as adjusted data with the following procedures. Once the data on the DIGITAL Assy are registered as adjusted data, the adjustment data for backup will be automatically updated each time the unit is turned off. Therefore, if a DIGITAL Assy with adjusted data is mounted on the unit, the following procedures are not required, even after manual adjustment.

(1) Copying, using the Factory menu

- ① Turn on the power.
- ② Enter the Panel Factory mode.
- ③ Display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP".
- ④ Register the changed adjustment data as adjusted data, as described for the following procedures, then transfer them as backup data.



- ⑤ Check if "ADJUSTED" is set for "DIG. EEP" on the PANEL INFORMATION page.
- ⑥ Turn off the power.

(2) Copying, using the RS-232C commands

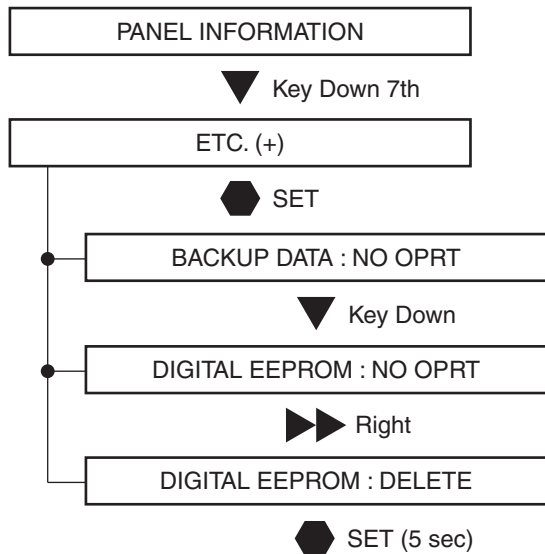
- ① Turn on the power.
- ② Issue the FAY command.
- ③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment not completed."
- ④ Issue the FAJ command to register the changed adjustment data as adjusted data then transfer them as backup data.
- ⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment completed."
- ⑥ Turn off the power.

3. When a secondhand DIGITAL Assy is to be reused

A DIGITAL Assy in good condition that had been mounted in another product can be reused. Before reuse, by following the procedures described below, make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data in order to prevent accidental updating of backup data when the secondhand DIGITAL Assy is mounted in another product

(1) Copying, using the Factory menu

- ① Turn on the power.
- ② Enter the Panel Factory mode.
- ③ Display the PANEL INFORMATION page, then check if "ADJUSTED" is set for "DIG. EEP".
- ④ Make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data, by following the procedures below:



- ⑤ Check if "NO DATA!" is set for "DIG. EEP" on the PANEL INFORMATION page.
- ⑥ Turn off the power.

(2) Copying, using the RS-232C commands

- ① Turn on the power.
- ② Issue the FAY command.
- ③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment completed."
- ④ Issue the UAJ command to make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data.
- ⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment not completed."
- ⑥ Turn off the power.

Note: If you mount a secondhand Assy to the product without performing the above procedures, the adjustment data and logs for the main unit specific to the product will be erased, and those of the secondhand Assy will be copied when the unit is turned off.

8.3 HOW TO CLEAR HISTORY DATA

■ Clearance of various logs after the Assys are replaced

Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up. Some of those data must be cleared after the Assys are replaced for service.

Clearance of those data can be performed in the ETC layer of the Factory menu or with RS232C commands.

Item	Content	Clearing at the Replacement			Clearing method	
		Panel	POWER SUPPLY Unit	Other parts	Factory Menu (ETC layer)	RS-232C Commands
Hour-meter	Accumulated power-on time	Must be cleared	No need to be cleared	No need to be cleared	HR-MTR INFO.	CHM
Pulse-meter	Accumulated number of pulses emitted	Must be cleared (mandatory)	No need to be cleared	No need to be cleared	PM/B1-B5	CPM
Shutdown history of the panel	Causes and hour-meter values for the last eight shutdowns (SD) of the Panel	Must be cleared	No need to be cleared	No need to be cleared	SD INFO.	CSD
Power-down history	Causes and hour-meter values for the last eight power-downs (PDs) of the Panel	Must be cleared	No need to be cleared	No need to be cleared	PD INFO.	CPD
Power-on counter	Relay-on count	No need to be cleared	Must be cleared (mandatory)	No need to be cleared	P COUNT INFO.	CPC
MAX TEMP	Historical max. temperature of the panel	Must be cleared	Must be cleared	Must be cleared	MAX TEMP.	CMT

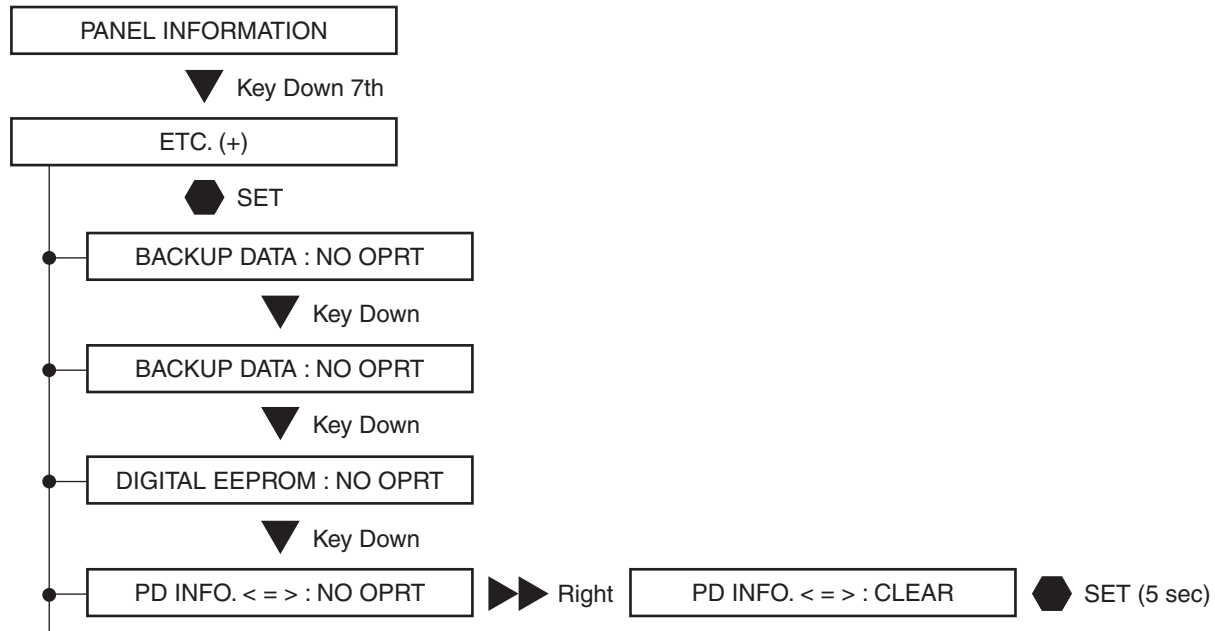
Notes:

- As the pulse-meter count is used for each correction function, the log must be cleared when the panel is replaced.
- After you clear the log, the unit must be turned off then back on again to reflect the cleared data for each correction function. If any adjustment is required after clearing the log, be sure to turn the unit off then back on again before adjustment.

(1) Clearance of logs, using the Factory menu

- Turn on the power.
- Enter the Panel Factory mode.
- Clear the various logs, as shown in the figure below.

Note: The following example shows how to clear the PD log (PD INFO.). To clear other items, select each item you wish to clear then perform the same procedures.



- Turn off the power.

(2) Using the RS-232C commands

- Turn on the power.
- Issue the FAY command.
- Issue the Delete command for a log you wish to clear.
- Turn off the power.

1234

8.4 ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED

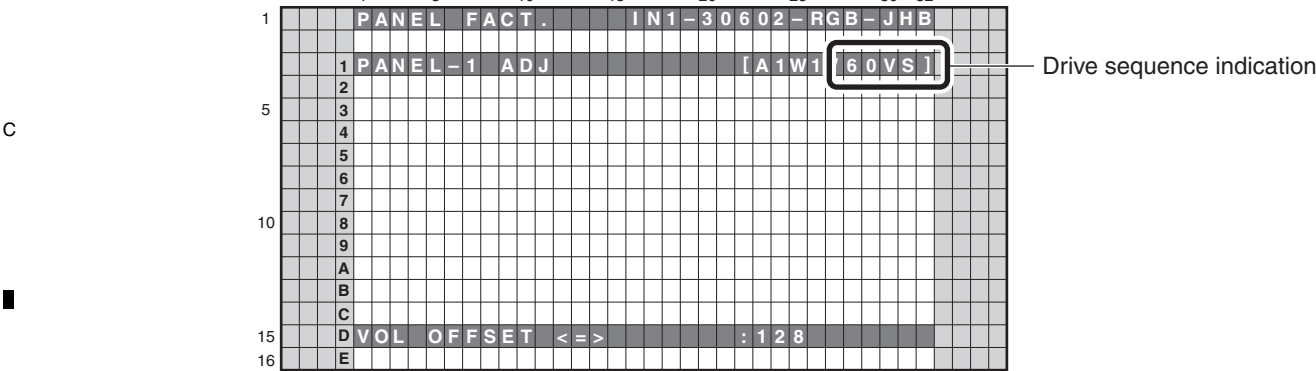
A

After the panel is replaced with one for service, voltage margin adjustment is required.

[Preparation]

Basically, voltage margin adjustment is performed using the Panel Factory menu.
After the panel is replaced and the unit is turned on, clear the pulse meter first.
For details on how to clear the pulse meter, see "8.3 HOW TO CLEAR HISTORY DATA".

- B
- *1: As various corrections are made referring to the pulse-meter count to calculate how long the panel has been used, if adjustment of the panel for service is performed without clearing the pulse-meter count, proper adjustments will not be performed.
 - *2: The drive sequence for Video 60-Hz is used for adjustment. When adjustment is made using the Panel Factory menu, the current drive sequence is displayed on the screen, as shown in the figure below. Make sure that 60VS is always indicated during adjustment.

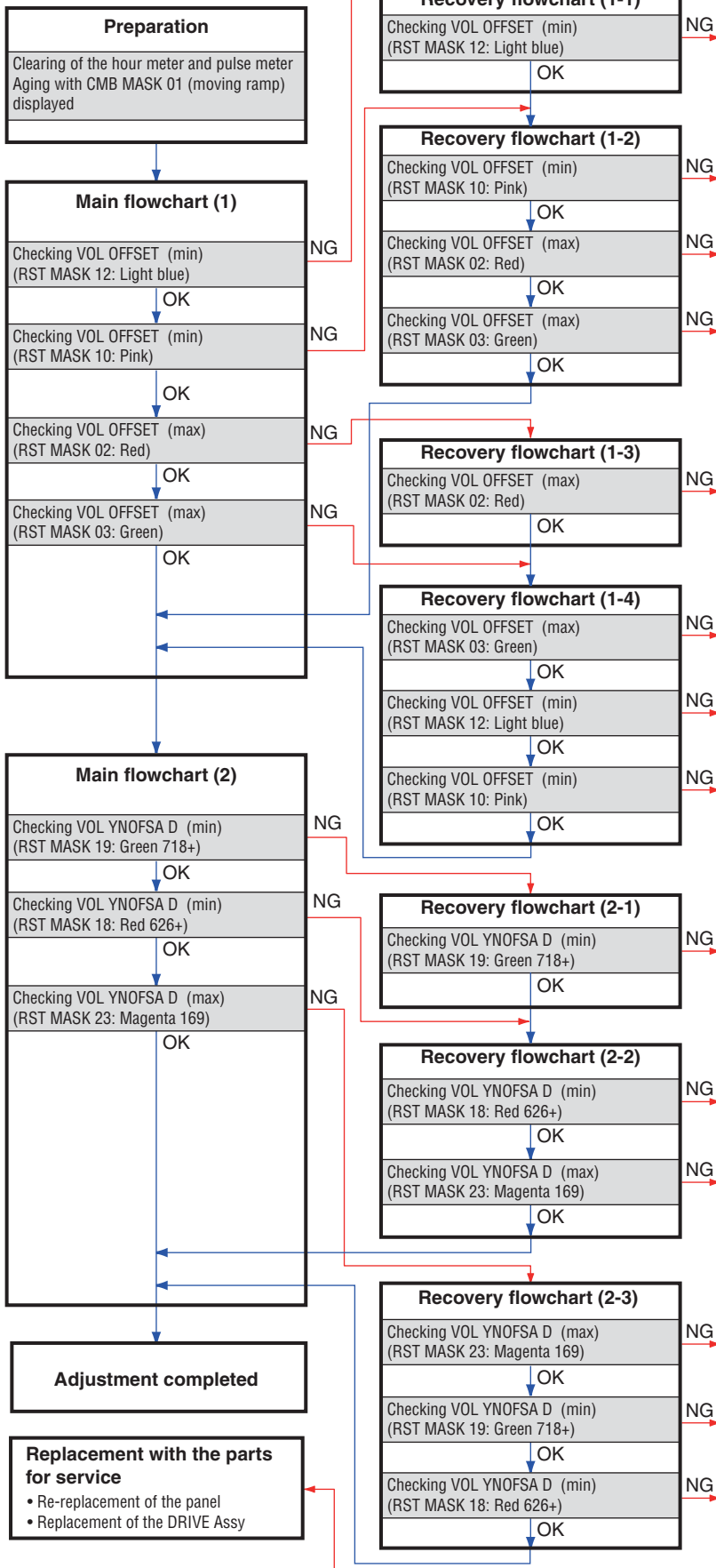


Example of the On-Screen display during Panel Factory mode

[Supplement]

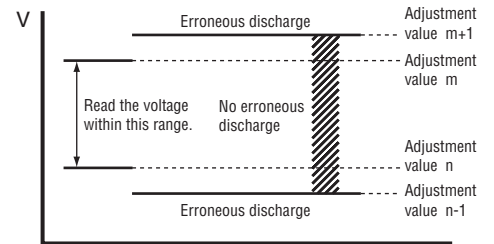
In the "PANEL-1ADJ" layer, the Panel White Balance value is reset to default, Panel Gamma is set to Straight, Noise is set to OFF, LUT mode is set to ON and Reset active control is set to OFF.
If adjustment is performed using RS232C commands, unlike the case of Factory menu operation, adjustments are not interlocked. Therefore, settings must be performed individually, by issuing commands. (See the section on preparations before adjustment.)

Overview



Range of margin measuring

Read the voltage within the hysteresis (stricter value).



Definition of limits for the voltage margins (abnormal lit/dead cells)

Abnormal lit cells:

- Five or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

Abnormal dead cells

- Fifteen or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

*: Abnormal cells visually recognizable at a distance of 1 meter from the panel must be counted.

*: Cells displayed abnormally for less than one second are not counted as abnormal cells.

Definition of tones for the measuring signals

FHD signal (1920*1080)/Video 60-Hz sequence
/Dither: ON, L dither: ON, noise: OFF

Red	RST MASK 02 (R 1023 /G 0 /B 0)
Green	RST MASK 03 (R 0 /G 1023 /B 0)
Pink	RST MASK 10 (R 908 /G 718 /B 908)
Light blue	RST MASK 12 (R 447 /G 812 /B 812)
Red 626+	RST MASK 18 (R 626 /G 120 /B 120)
Green 718+	RST MASK 19 (R 120 /G 718 /B 120)
Magenta 169	RST MASK 23 (R 169 /G 0 /B 169)

Interlocked settings for Voltages Vyknofs1/3/4

For the 9th-generation PDPs, interlocked setting for Voltages Vyknofs1/3/4 is available on the Factory menu or with RS232C commands, for easier adjustment. Therefore, in the adjustment flowchart, the interlocked setting function is used. (Individual setting for each adjustment value is also possible, as in the conventional setting methods.

Set Voltage	Factory Menu	Command
Vyknofs1 individual	VOL YNOFS1 D	[V1F]
Vyknofs3 individual	VOL YNOFS3 D	[V3F]
Vyknofs4 individual	VOL YNOFS4 D	[V4F]
Vyknofs1,3,4 interlocked	VOL YNOFSA D	[VYF]

Note:

- The initial value for the interlocked setting value is 128, including for factory preset values.
- See "[3] DRIVE ASSY" of "5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS" for calculation of actually used voltage values.

A ■ Preparation before adjustment

[Replacement with the panel for service is completed.]

Procedures for resetting corrections for change over time

Turn the unit on. / [PON]

Enter Factory mode. / [FAY]

Set PM/B1-B5 to CLEAR (to clear the pulse meter). / [CPM]

Set HR-MTR to CLEAR (to clear the hour meter). / [CHM]

Turn the unit off. / [POF]

Procedures for stabilizing the panel before adjustment

Turn the unit on. / [PON]

Enter Factory mode. / [FAY]

Enter the tentative setting value of the replacement panel

Setting Item	Tentative Setting Value
VOL SUS / [VSU ***]	128
VOL OFFSET / [VOF ***]	VOF indication value
VOL RST P / [VRP ***]	VRP indication value
VOL XPOFS1 / [VX1 ***]	105
VOL XPOFS2 / [VX2 ***]	063
VOL YNOFS1 D / [V1F ***]	V1F indication value
VOL YNOFS3 D / [V3F ***]	V3F indication value +0
VOL YNOFS4 D / [V4F ***]	V4F indication value
VOL YNOFSA D / [VYF ***]	128

Note: "+0" shows α .

Display CMB MASK 01 (moving ramp). / [MKC S01]

Select Video 60-Hz sequence. / [VFQ S03]

Perform aging for 30 minutes.

[To the Main flowchart (1)]

* To reflect the results of log clearing for each correction function, the unit must be turned off then back on again. Before adjustment, be sure to turn the unit off then back on again.

Indication example of the adjustment label of service panel

AWU1287 Data **VOF=068**
VRP=018 **V1F=086** **V3F=096+ α**
V4F=143 **Hour Meter** _____ **H**
 Data 08/02/28 Chassis CXX99999
 Time 18:27 Pnl FTEST123456

Note: The symbol " α " denotes the adjustment value plus 0.

* Each setting value described on the adjustment label denotes an indicated data value but not a real voltage value. Therefore, just enter the data value as a setting value.

* To store the VFQ S03 command in memory, transmit it after displaying the mask.

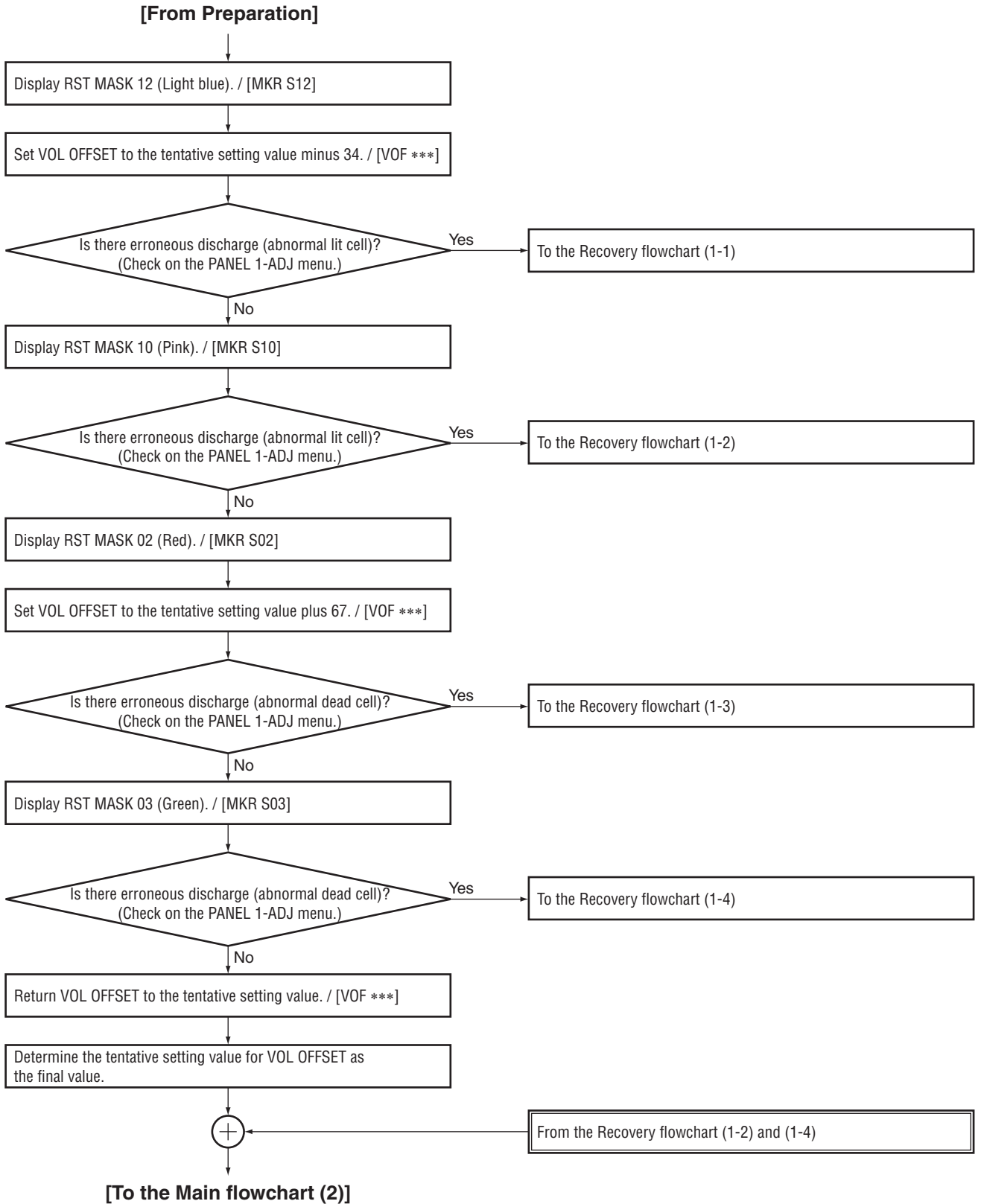
Note:

* When you perform the adjustment with RS232C commands, issue the following commands in addition.

* If the unit is shut down in the middle of performing the adjustment flowchart, reissuing of the command is required.

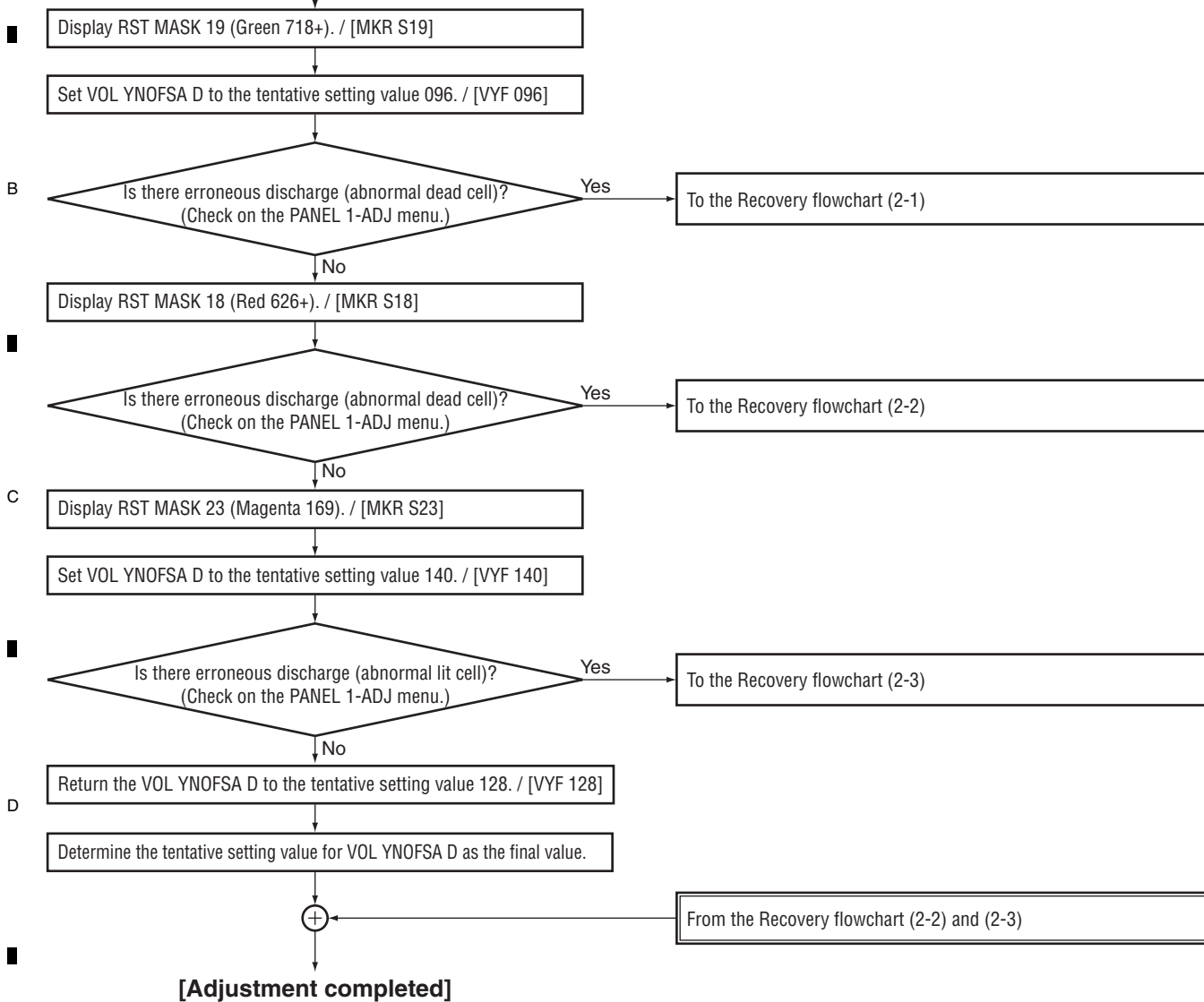
[PAV S00]	: To set panel drive mode to Factory
[VFQ S03]	: To set Drive Sequence to Video 60-Hz
[WBI S01]	: To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
[PGR S00]	: To set the gamma R value to that for Factory mode
[PGG S00]	: To set the gamma G value to that for Factory mode
[PGB S00]	: To set the gamma B value to that for Factory mode
[DIZ S03]	: Dither ON, L dither ON, noise OFF.
[\$1800000001]	: LUT mode ON

■ Main flowchart (1)...Checking VOL OFFSET



A ■ Main flowchart (2)...Checking VOL YNOFSA D

[From the Main flowchart (1)]



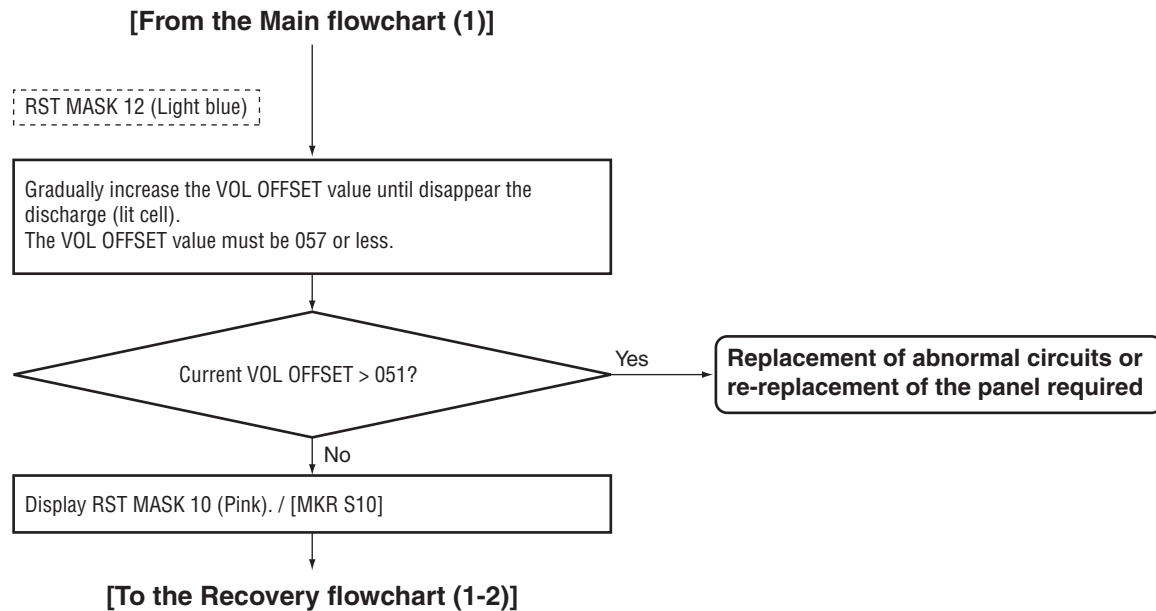
Note:

Make sure that the following values become the final setting values.

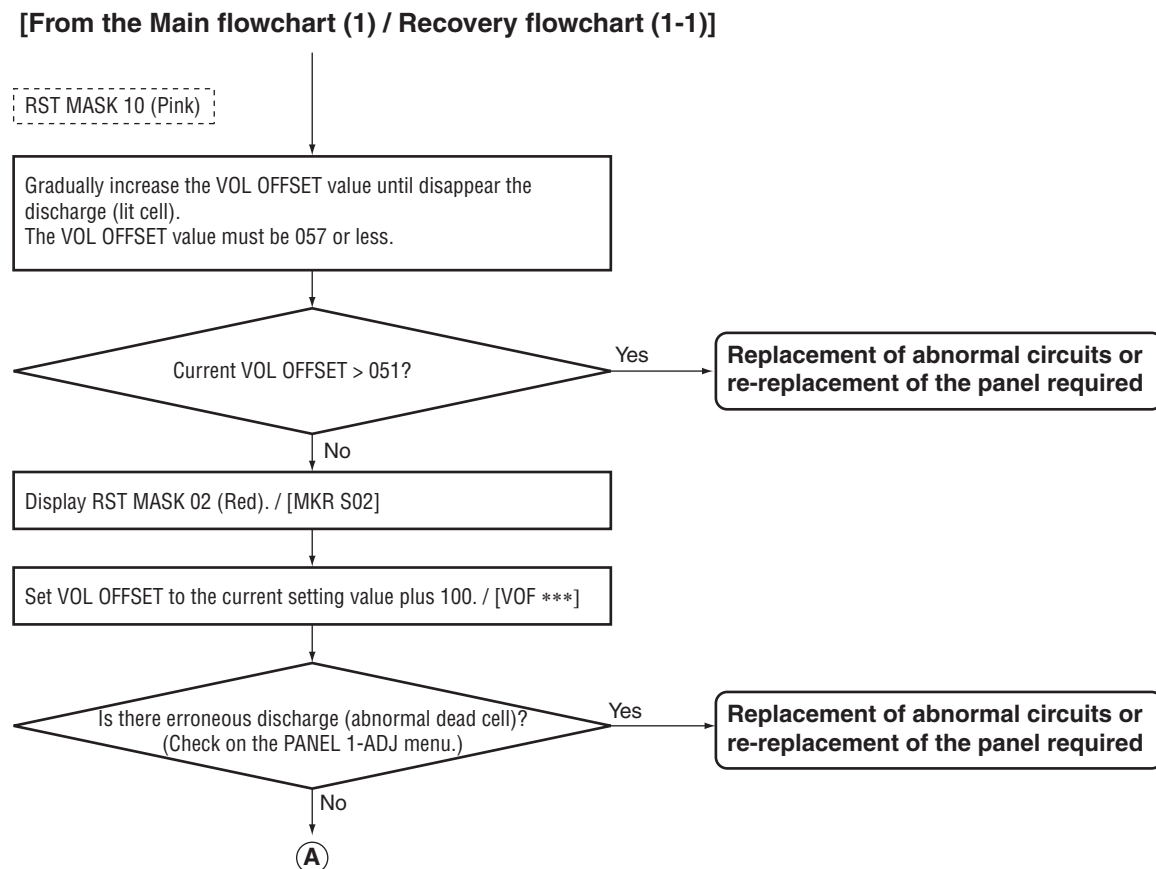
VOL SUS *1	VOL XPOSF2 *1
VOL OFFSET	VOL YNOFS1 D *1
VOL RST P *1	VOL YNOFS3 D *1
VOL XPOFS1 *1	VOL YNOFS4 D *1
	VOL YNOFS4 A

*1: The tentative setting value becomes the final value.

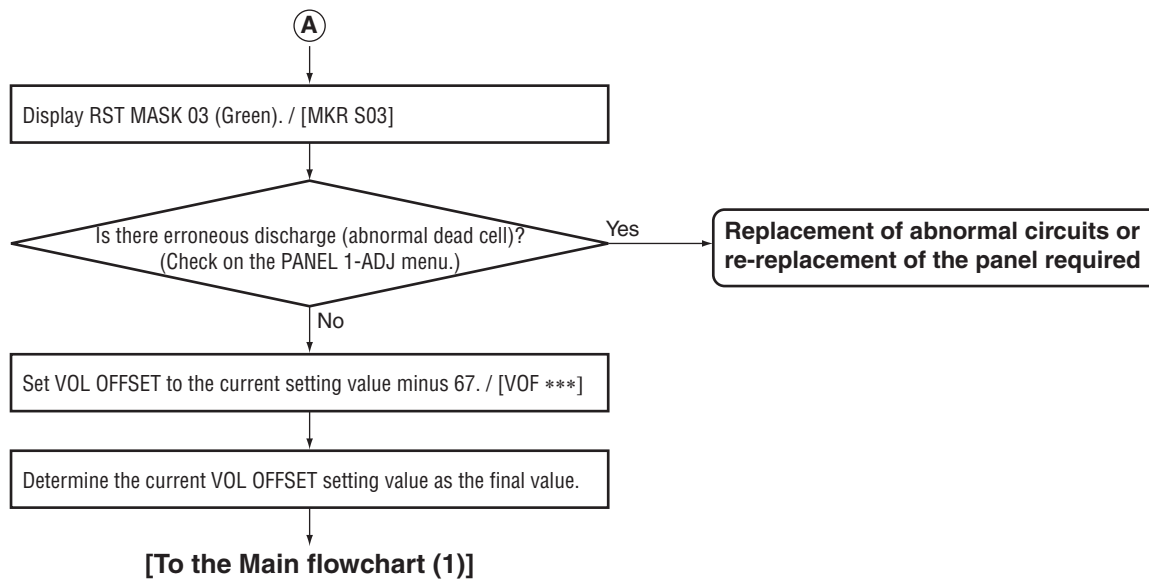
Recovery flowchart (1-1)...Changing the VOL OFFSET setting



Recovery flowchart (1-2)...Changing the VOL OFFSET setting



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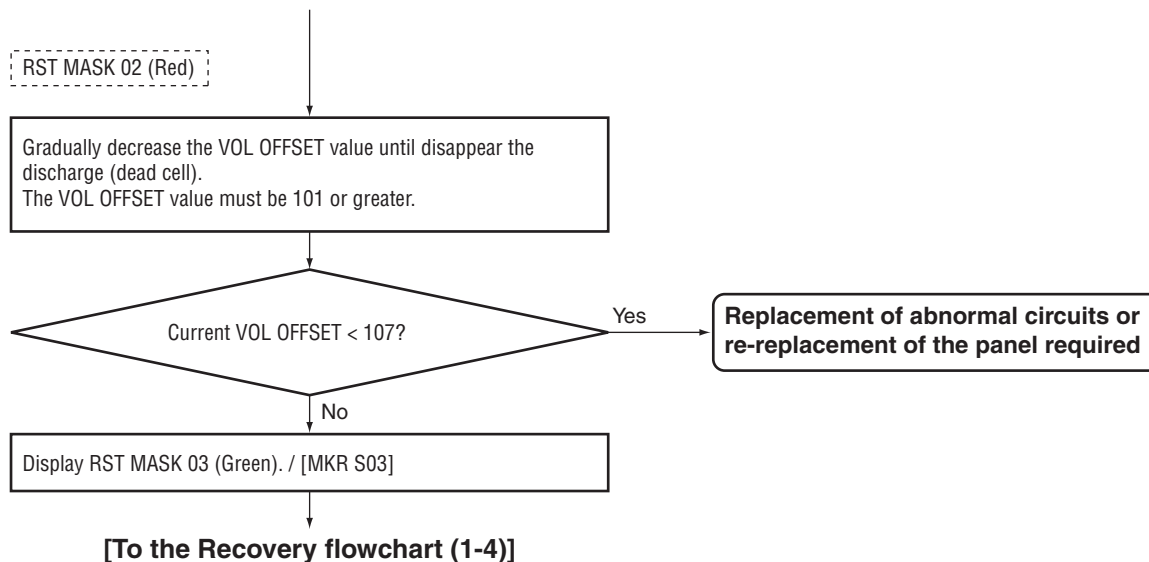


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Recovery flowchart (1-3)...Changing the VOL OFFSET setting

[From the Main flowchart (1)]



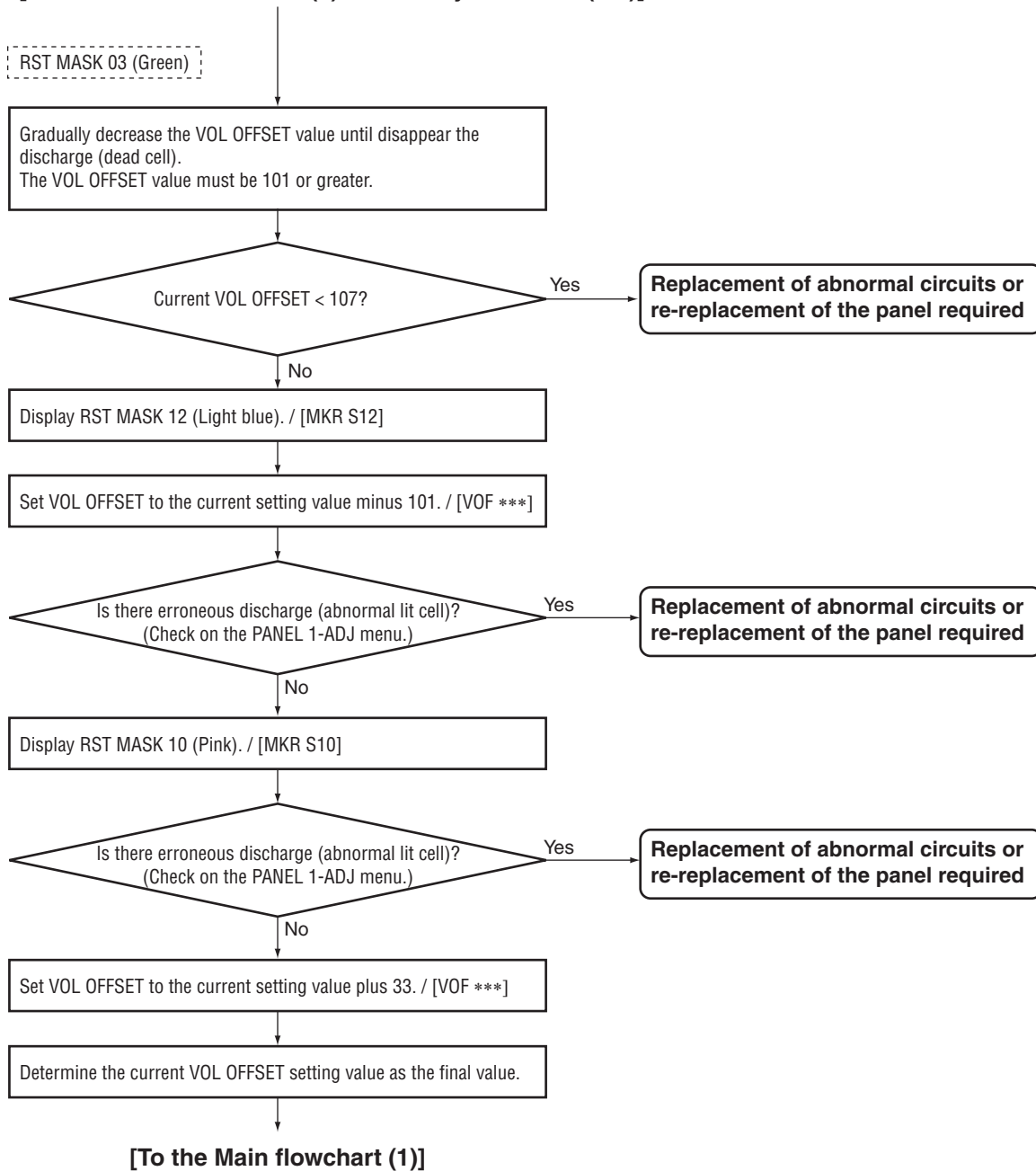
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Recovery flowchart (1-4)...Changing the VOL OFFSET setting

[From the Main flowchart (1) / Recovery flowchart (1-3)]



A ■ Recovery flowchart (2-1)...Changing the VOL YNOFSA D setting

[From the Main flowchart (2)]

RST MASK 19 (Green 718+)

Gradually increase the VOL YNOFSA D value until disappear the discharge (dead cell).
The tentative setting value of VOL YNOFS1 D + current setting value of VOL YNOFSA D must be 205 or less.

Tentative setting value of VOL YNOFS1 D
+ current setting value of VOL YNOFSA D
> 203?

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

Display RST MASK 18 (Red 626+). / [MKR S18]

[To the Recovery flowchart (2-2)]

C

■ Recovery flowchart (2-2)...Changing the VOL YNOFSA D setting

[From the Main flowchart (2) / Recovery flowchart (2-1)]

RST MASK 18 (Red 626+)

Gradually increase the VOL YNOFSA D value until disappear the discharge (dead cell).
The tentative setting value of VOL YNOFS1 D + current setting value of VOL YNOFSA D must be 205 or less.

Tentative setting value of VOL YNOFS1 D
+ current setting value of VOL YNOFSA D
> 203?

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

Display RST MASK 23 (Magenta 169). / [MKR S23]

Set VOL YNOFSA D to the current setting value plus 44. / [VYF ***]

Is there erroneous discharge (abnormal lit cell)?
(Check on the PANEL 1-ADJ menu.)

Yes

Replacement of abnormal circuits or
re-replacement of the panel required

No

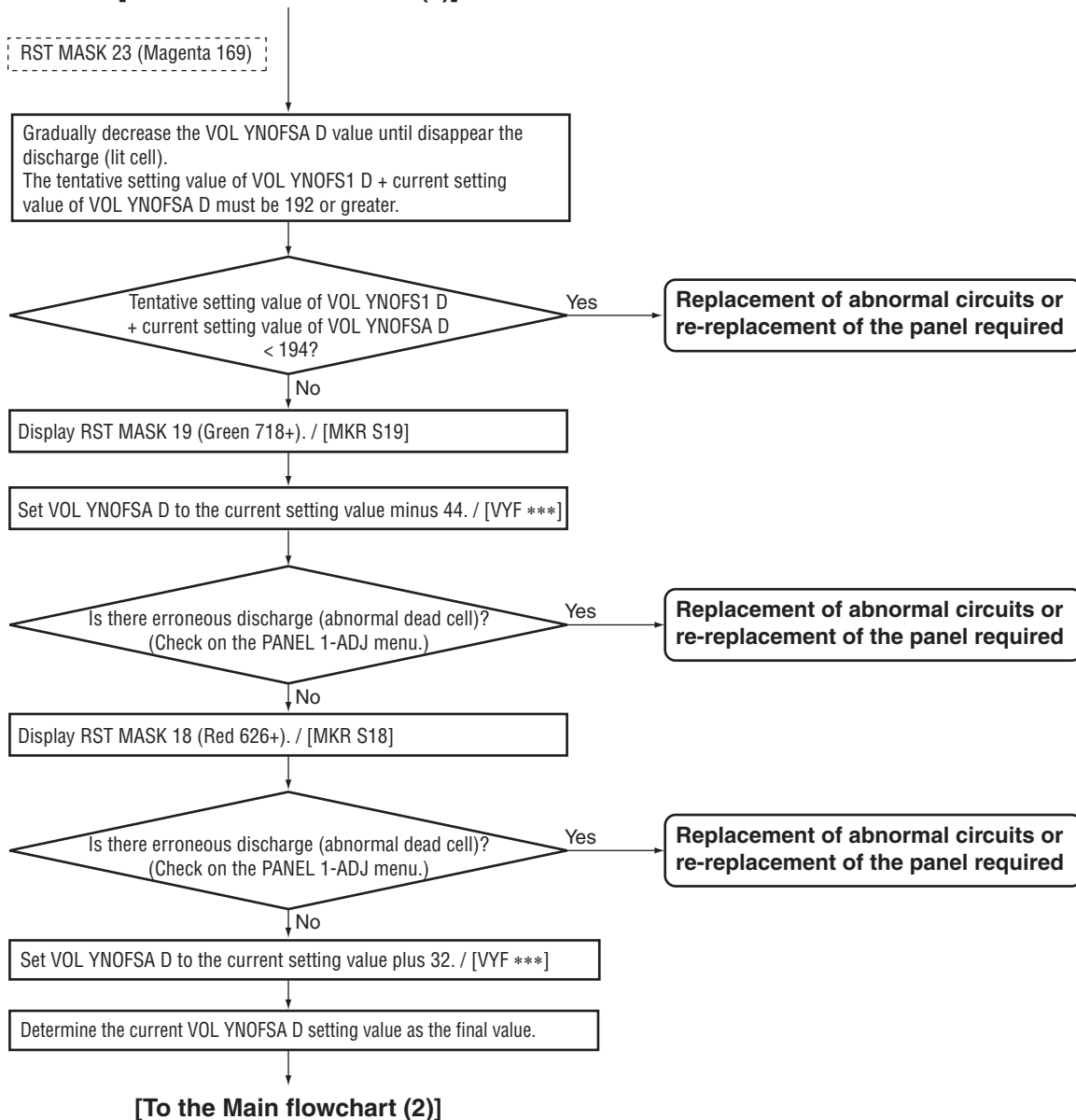
Set VOL YNOFSA D to the current setting value minus 13. / [VYF ***]

Determine the current VOL YNOFSA D setting value as the final value.

[To the Main flowchart (2)]

Recovery flowchart (2-3)...Changing the VOL YNOFSA D setting

[From the Main flowchart (2)]



1234

8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED

A

■ Waveform adjustments required when replacing the following parts of the X DRIVE and Y DRIVE Assys.

Assy Name	Ref No.	Part Name	Part Category	Remarks
X DRIVE Assy	IC1101	PS9818-1(P)	Photo Coupler	
	IC1104	TND307TD	FET Driver	
	IC1204	PS9818-2(P)	Photo Coupler	
	IC1209	TND307TD	FET Driver	
Y DRIVE Assy	IC2101	PS9818-1(P)	Photo Coupler	
	IC2103	TND307TD	FET Driver	
	IC2201	PS9818-1(P)	Photo Coupler	
	IC2203	TND307TD	FET Driver	

B

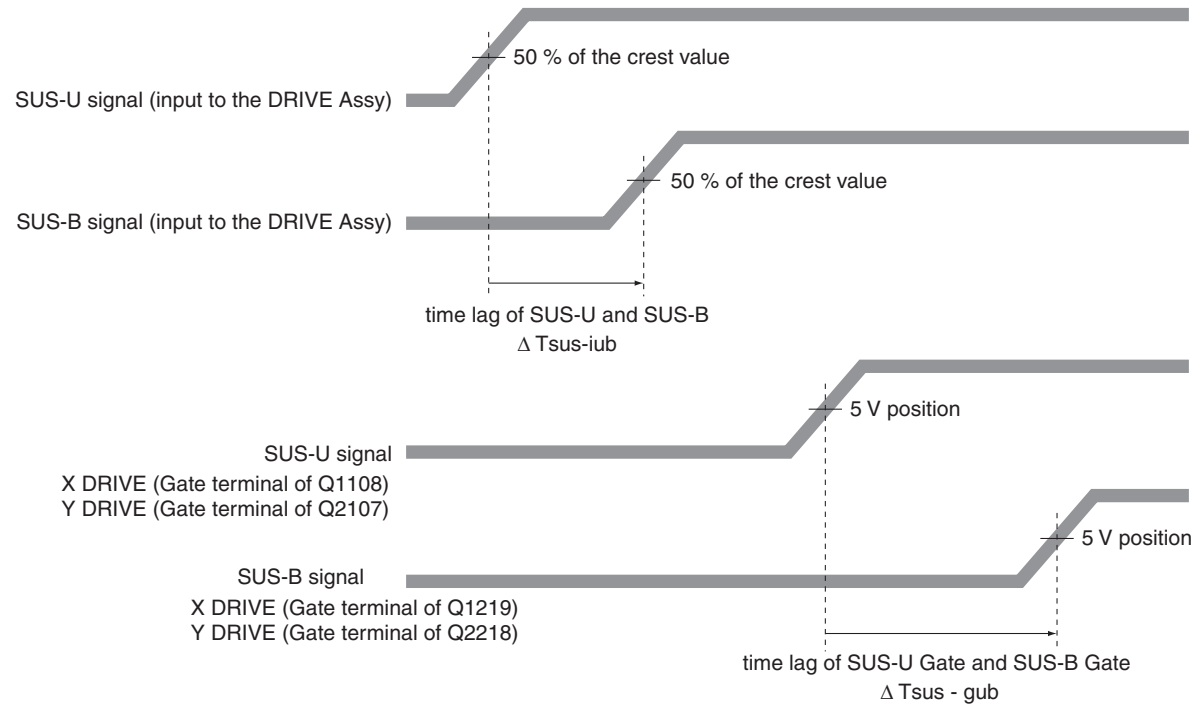
■ TIME LAG ADJUSTMENT OF THE CONTROL SIGNAL (SUS-B)

- ① Measure the time lag for the SUS-U signal to the SUS-B signal.
- ② Check the time lag for the SUS-B Gate signal to the SUS-U Gate signal.
- Adjust the variable control so that the time lag of Gate becomes " time lag of input signal + $\alpha \pm 5$ nsec."

Note:

- Be sure to set the Drive to OFF for adjustment.
- For details on measuring points of waveform, see the figure below.

C



Time lag of SUS-U Gate and SUS-B Gate : $\Delta Tsus - gub$

Adjust so that " $\Delta Tsus - gub = \Delta Tsus - iub + \alpha \pm 5$ nsec," using the variable controls shown in the table below:

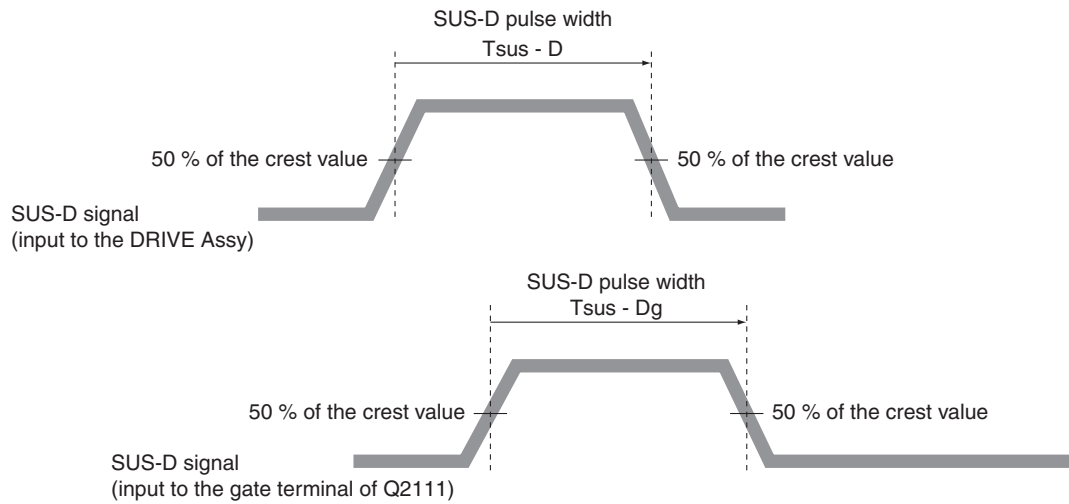
Assy	VR	Value of α
X DRIVE Assy	VR1002	60 nsec
Y DRIVE Assy	VR2002	60 nsec

F

■ DELAY ADJUSTMENT OF THE CONTROL SIGNAL (SUS-D)

- ① Measure the pulse width of the SUS-D signal.
- ② Check the pulse width of the SUS-D input signal (gate terminal of Q2111).
Adjust the variable control so that the pulse width of the SUS-D input signal (gate terminal of Q2111) becomes the same pulse width ± 5 nsec as the SUS-D signal.

Note: • For details on measuring points of waveform, see the figure below.



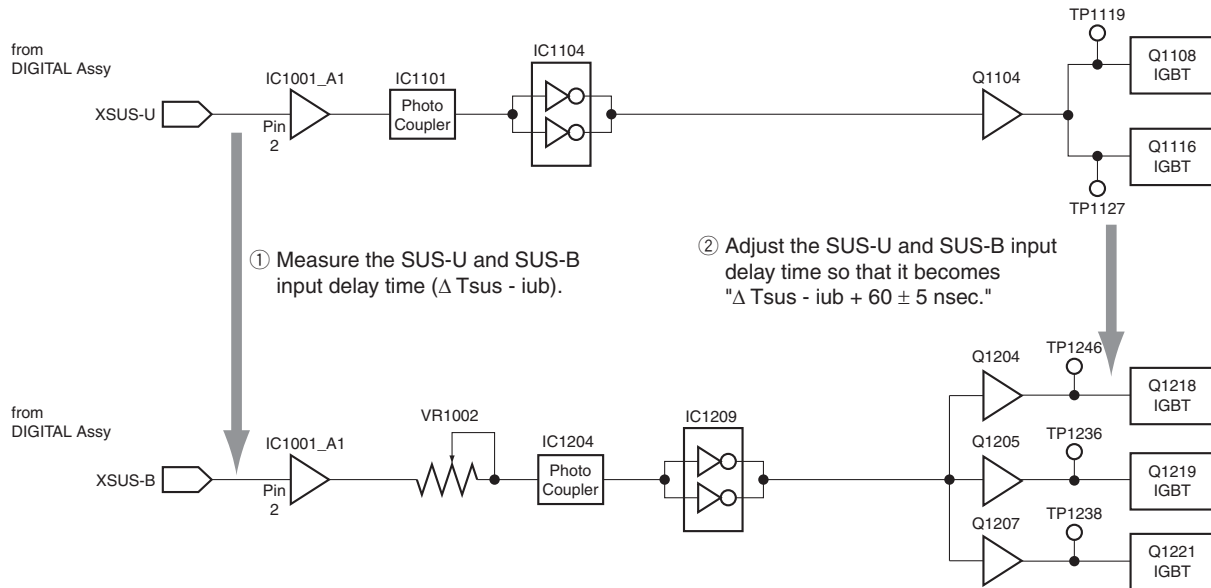
SUS-D pulse width: $T_{sus - Dg}$

Adjust so that " $T_{sus - Dg} = T_{sus - D} \pm 5$ nsec," using the variable control shown in the table below:

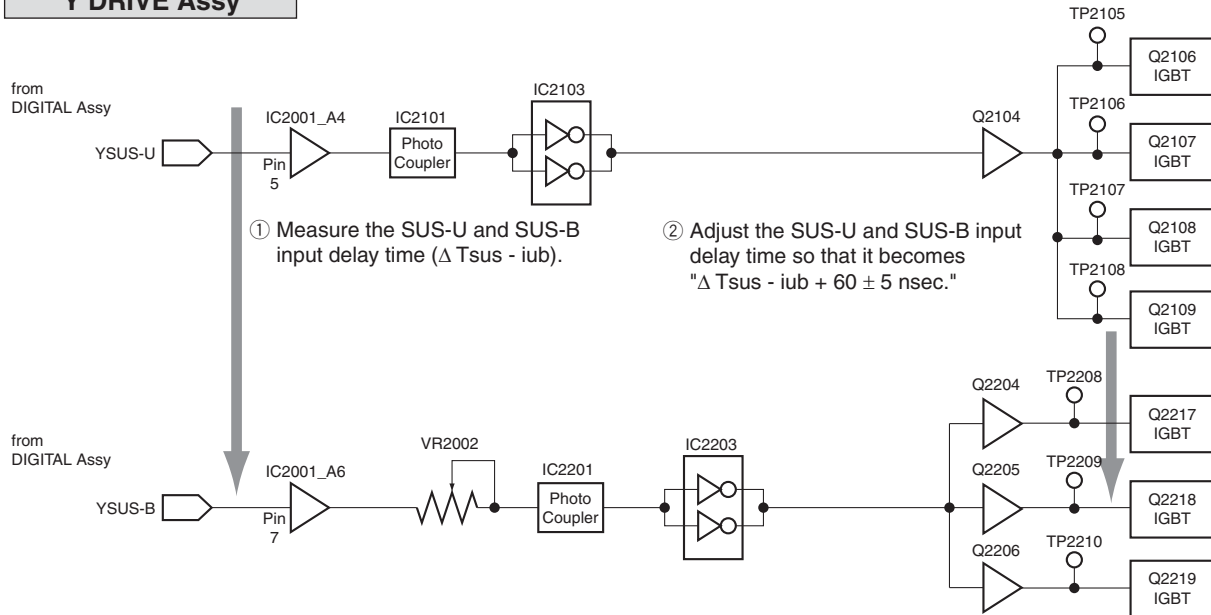
Assy	VR
Y DRIVE Assy	VR2001

A ■ SUS-B ADJUSTMENT

X DRIVE Assy

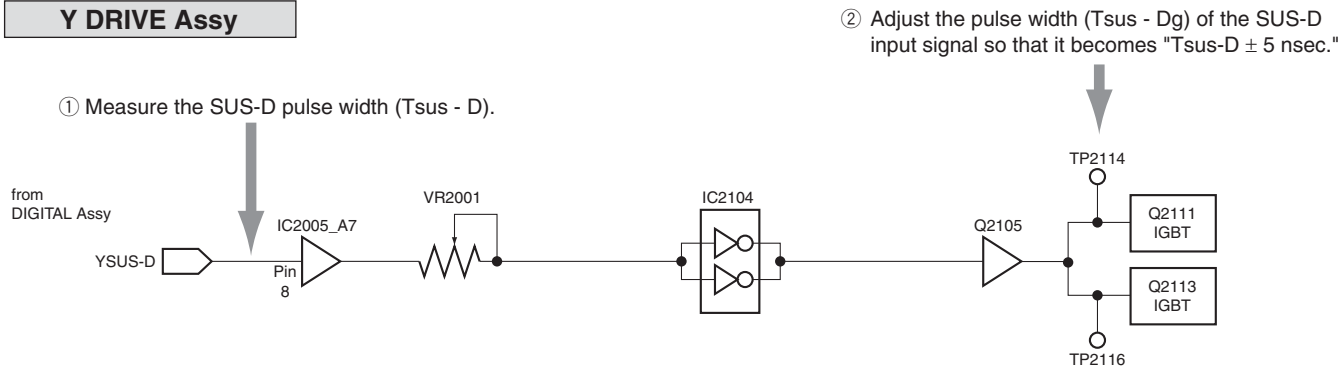


Y DRIVE Assy



E ■ SUS-D ADJUSTMENT

Y DRIVE Assy



■5■6■7■8■

8.6 ADJUSTMENT WHEN THE MAIN OR IO_AUDIO ASSY IS REPLACED

■ Explanation

To correct differences in IC output levels and signal levels upon AD conversion, adjustment is performed throughout the path. Therefore, if any of the following devices is replaced, the entire adjustment must be performed again.

IC8001	AV_SW	R2S11006FT
IC8101	RGB_SW	R2S11001FT
IC4702	VDEC	CM0048AF
IC4801	ADC	AD9985KSTZ-110

■ Adjustment Procedure

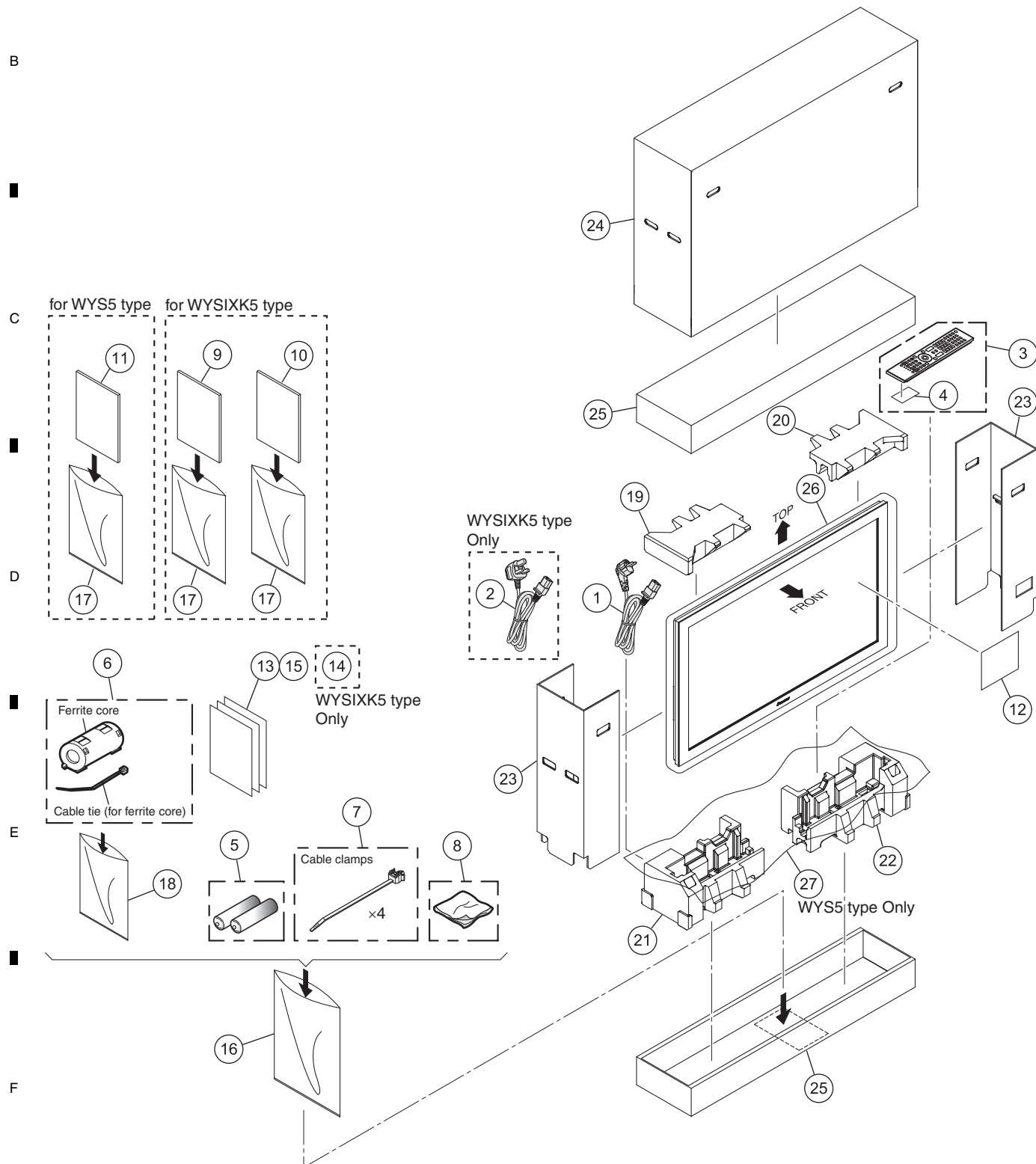
Perform the "AUTO ADJUSTMENT" on the "6.2 [4] INITIALIZE".

9. EXPLODED VIEWS AND PARTS LIST

NOTES: ● Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.

- The \triangle mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Screws adjacent to ▼ mark on product are used for disassembly.
- For the applying amount of lubricants or glue, follow the instructions in this manual.
(In the case of no amount instructions, apply as you think it appropriate.)

9.1 PACKING SECTION



(1) PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
⚠	1	Power Cable (2 m)	ADG1214		13	Cleaning Caution	See Contrast table (2)
⚠	2	Power Cable (2 m)	See Contrast table (2)		14	Block Diagram (609)	See Contrast table (2)
	3	Remote Control Unit	AXD1564	NSP	15	Warranty Card EU	See Contrast table (2)
	4	Battery Cover (Black)	AZN2784	NSP	16	Vinyl Bag	AHG1340
NSP	5	Dry Cell Battery (R6, AA)	VEM1031		17	Vinyl Bag	AHG1310
⚠	6	Ferrite Core	ATX1039		18	Vinyl Bag	AHG1337
	7	Binder Assy	AEC2158		19	Pad (609 T-L)	See Contrast table (2)
	8	Cleaning Cloth	AED1285		20	Pad (609 T-R)	See Contrast table (2)
	9	Operating Instructions (English / French / German)	See Contrast table (2)		21	Pad (609 B-L)	See Contrast table (2)
					22	Pad (609 B-R)	See Contrast table (2)
	10	Operating Instructions (Italian / Dutch / Spanish / Russian)	See Contrast table (2)		23	Sub Carton LR (609E)	See Contrast table (2)
	11	Operating Instructions (Russian)	See Contrast table (2)		24	Upper Carton (6090SD)	See Contrast table (2)
	12	Caution Card	See Contrast table (2)		25	Under Carton (609E)	See Contrast table (2)
					26	Mirror Mat	AHG1385
					27	HD Sheet	See Contrast table (2)

(2) CONTRAST TABLE

PDP-LX6090/WYSIXK5 and WYS5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX6090 /WYSIXK5	PDP-LX6090 /WYS5
⚠	2	Power Cable (2 m)	ADG1223	Not used
	9	Operating Instructions (English / French / German)	ARE1492	Not used
	10	Operating Instructions (Italian / Dutch / Spanish / Russian)	ARC1606	Not used
	11	Operating Instructions (Russian)	Not used	ARC1618
	12	Caution Card	ARM1310	ARM1232
	13	Cleaning Caution PTK	ARM1311	Not used
	13	Cleaning Caution (11L)	Not used	ARM1283
	14	Block Diagram (609)	ARY1209	Not used
NSP	15	Warranty Card EU	ARY7112	ARY7110
	19	Pad (609 T-L)	AHA2718	AHA2722
	20	Pad (609 T-R)	AHA2719	AHA2723
	21	Pad (609 B-L)	AHA2720	AHA2724
	22	Pad (609 B-R)	AHA2721	AHA2725
	23	Sub Carton LR (609E)	AHC1109	AHC1110
	24	Upper Carton (6090SD)	AHD3660	AHD3700
	25	Under Carton (609E)	AHD3665	AHD3666
	27	HD Sheet	Not used	AHG1416

9.2 REAR SECTION

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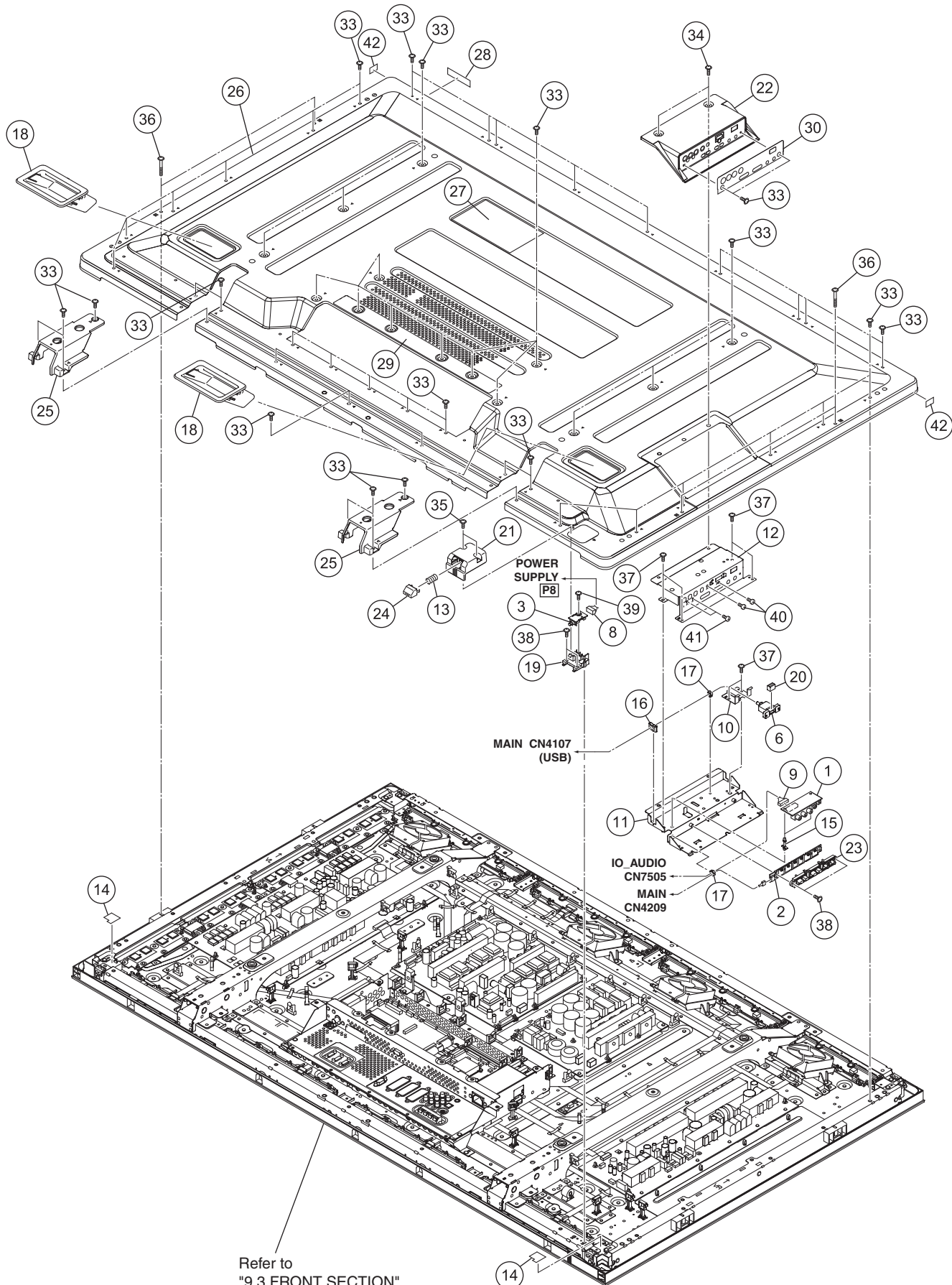
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(1) REAR SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	SIDE IO Assy	AWW1358	21	Power Button Case	AAK2927
2	SIDE KEY Assy	AWW1361	22	Side Input Cover	AMR3754
3	POWER SW Assy	AWW1366	23	Operation Button	AAC1569
4	•••••		24	Power Button (508F)	AAD4152
5	•••••		25	Sub Frame Cover	AMR3752
6	USB Cable (J301)(120 cm)	ADF1034	26	Rear Case Assy 60	ANE1686
7	•••••		NSP 27	Name Label (LX6090)	See Contrast table (2)
8	3P Housing Wire (J103)	ADX3606	28	Serial Seal	AAX3143
9	11P Housing Wire (J118)	ADX3621	29	Label A (ES)	AAX3568
10	USB Holder	ANG3134	30	Side Label (EU)	AAK2932
11	Side Input Base	ANG3215	31	•••••	
12	Side Input Shield	ANG3216	32	•••••	
13	Coil Spring	ABH1125	33	Screw (M3 x 6)	ABA1377
14	Sensor Cushion B (428)	AEB1486	34	Screw (M3 x 10)	ABA1378
NSP 15	PCB Spacer	AEC1084	35	Screw (3 x 8 P)	ABA1379
16	Edge Saddle	AEC1571	36	Screw (3 x 25 P)	ABA1380
17	Mini Clamp	AEC1971	37	Screw	AMZ30P060FTB
18	Inner Grip Assy	See Contrast table (2)	38	Screw	AMZ30P080FTB
19	Power Button Support	AMR3763	39	Screw	APZ30P080FTB
⚠ 20	USB Gasket	ANK1962	40	Screw	BMZ30P080FTB
			41	Screw	BPZ30P080FTB
			42	Protect Sheet (609)	AED1339

(2) CONTRAST TABLE

PDP-LX6090/WYSIXK5 and WYS5 are constructed the same except for the following:

Mark	No.	Symbol and Description	PDP-LX6090 /WYSIXK5	PDP-LX6090 /WYS5
	18	Inner Grip Assy	AMR3693	AMR3434
NSP	27	Name Label (LX6090)	AAL3025	AAL3049

1 2 3 4

9.3 FRONT SECTION

A

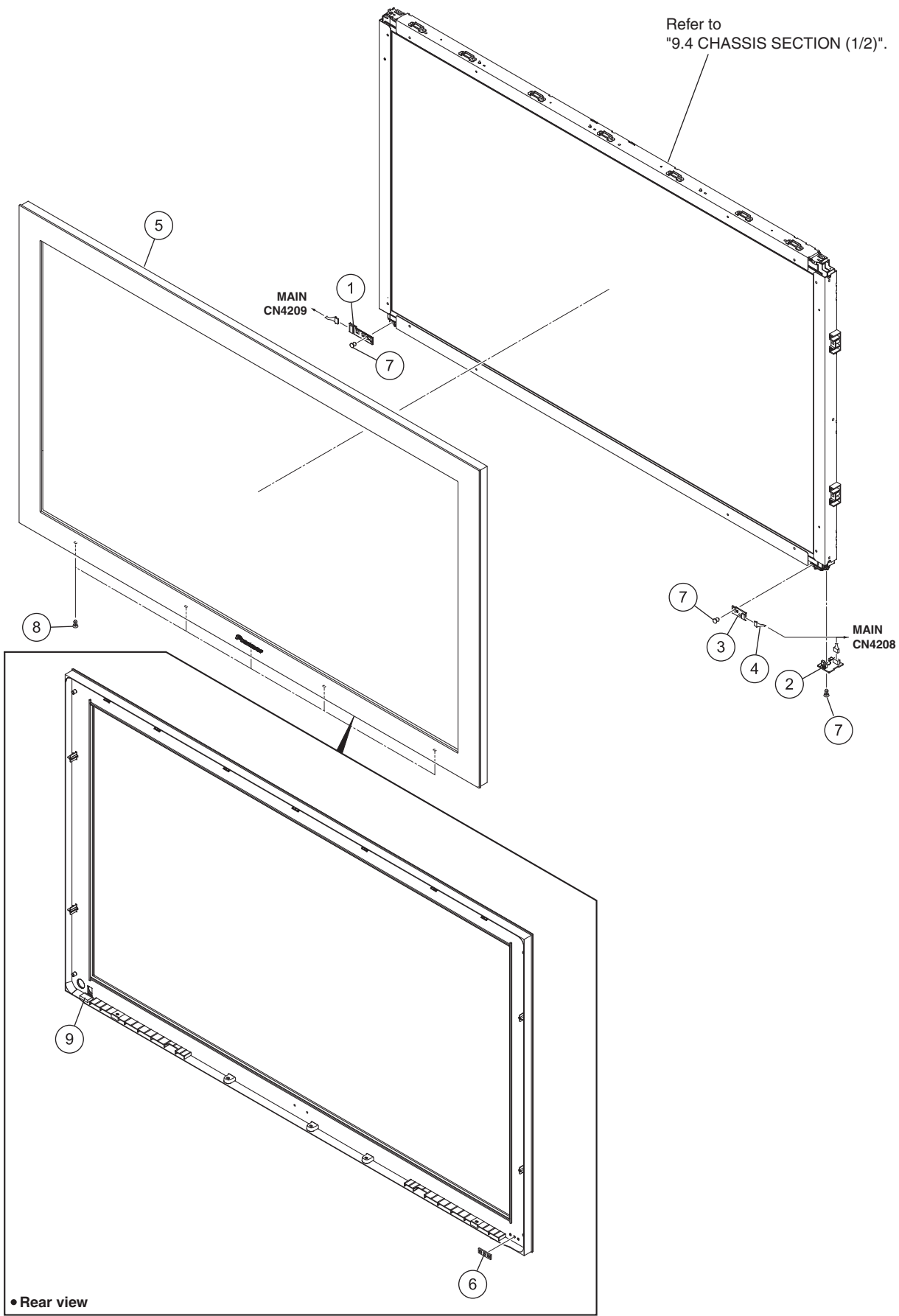
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FRONT SECTION PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	LED Assy	AWW1362
2	IR Assy	AWW1363
3	RLS Assy	AWW1365
4	7/3/3P Housing Wire (J117)	ADX3620
5	Front Bezel (609TVE)	AMB3084
6	Blind Cushion (508F)	AEB1479
7	Nylon Rivet	AEC1671
8	Rivet (Plastic)	AEC1877
9	Blind Cushion (609)	AEB1501

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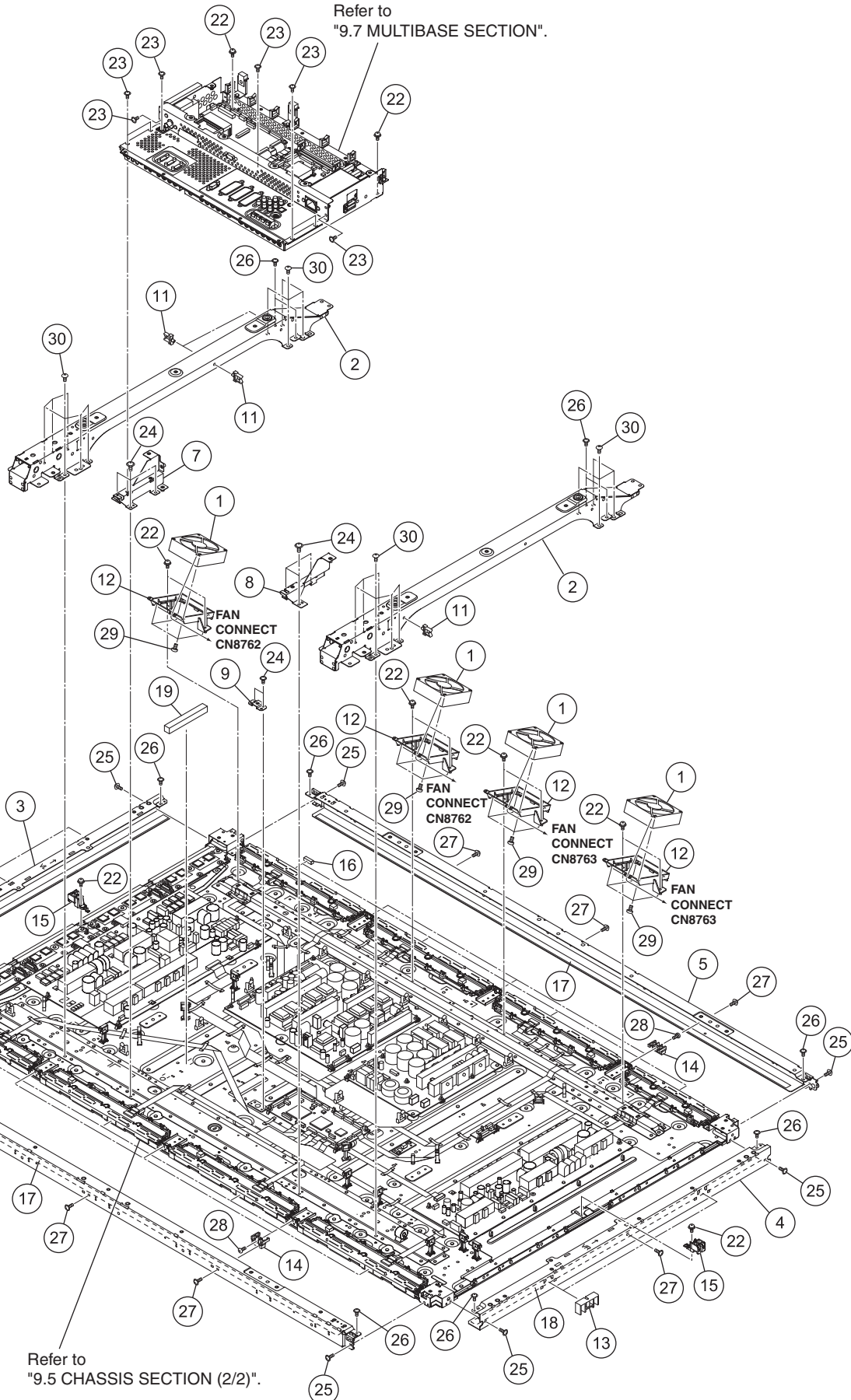
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9.4 CHASSIS SECTION (1/2)



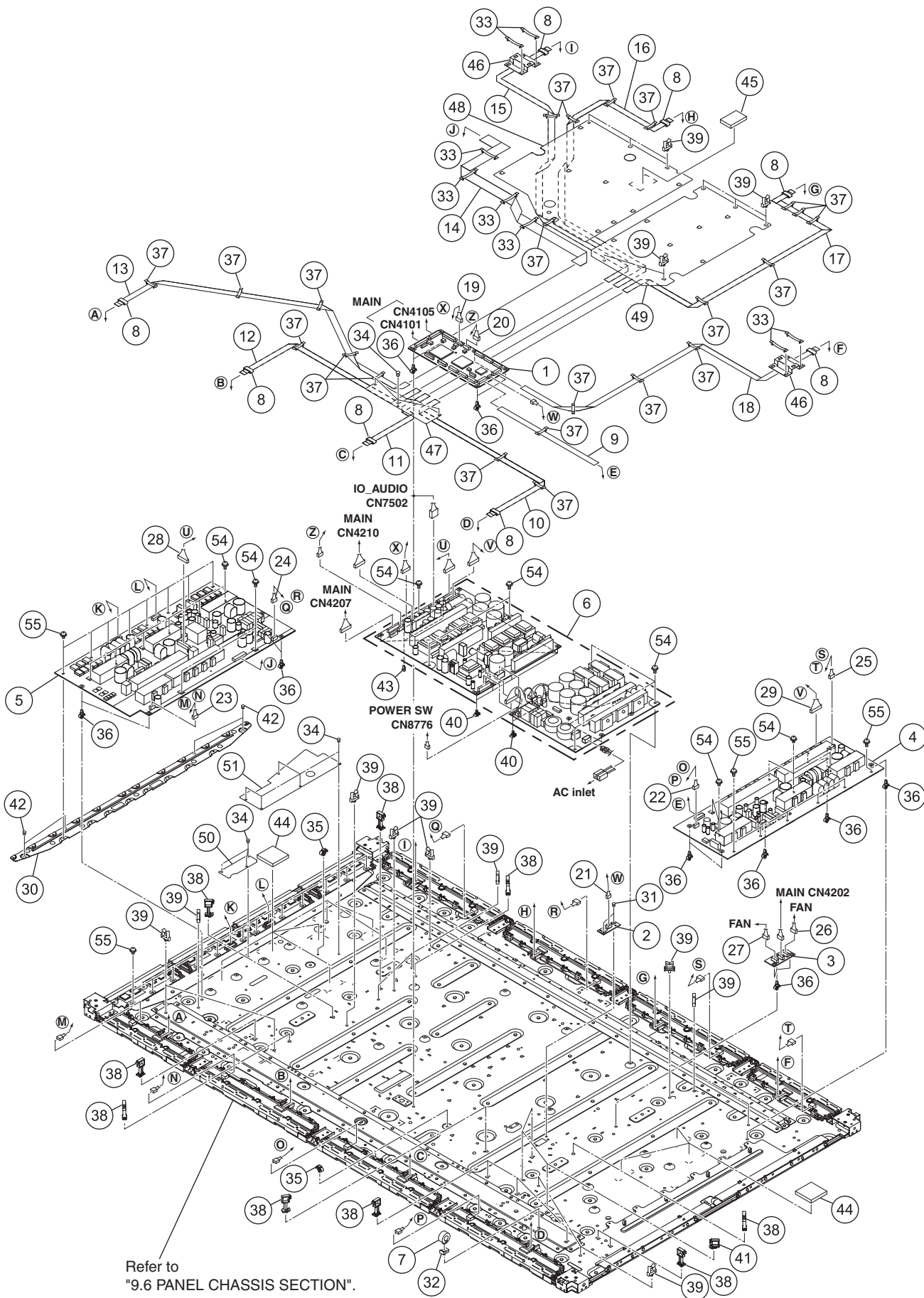
Cleaning paper :
GED-008



CHASSIS SECTION (1/2) PARTS LIST

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
⚠ 1	DC FAN Motor 80 x 25L	AXM1064
2	Sub Frame Assy	ANA2127
⚠ 3	F. Chassis VL Assy	ANA2184
⚠ 4	F. Chassis VR Assy	ANA2128
⚠ 5	F. Chassis HT Assy	ANA2132
⚠ 6	F. Chassis HB Assy	ANA2133
7	Multi Base Holder L	ANG3137
8	Multi Base Holder R	ANG3138
9	Multi Base Holder C	ANG3139
10	••••	
11	Reuse Wire Saddle	AEC2134
12	FAN Bracket	AMR3753
13	Front Bezel Support	AMR3755
14	F. Chassis H Guide	AMR3756
15	Support Bracket	AMR3762
⚠ 16	Address Gasket	ANK1947
⚠ 17	Front Gasket H	ANK1960
⚠ 18	Front Gasket V	ANK1961
⚠ 19	Gasket (10 x 10 x 80)	ANK1974
20	••••	
21	••••	
22	Screw	ABA1351
23	Screw (M3 x 6)	ABA1377
24	Screw	ABZ30P060FTB
25	Screw	ABZ30P080FTC
26	Screw	AMZ30P060FTB
27	Screw	APZ30P080FTB
28	Screw	BMZ30P080FTB
29	Screw	PPZ50P100FTB
30	Screw	TBZ40P060FTC

9.5 CHASSIS SECTION (2/2)



CHASSIS SECTION (2/2) PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.	
1	60F DIGITAL Assy	AWW1339	46	FAN Sheet A	AMR3764	
2	SENSOR Assy	AWW1340	47	Digital Sheet	AMR3765	A
3	FAN CONNECT Assy	AWW1364	⚠ 48	Power Sheet A	AMR3766	
4	60F X DRIVE Assy	AWV2540	⚠ 49	Power Sheet B	AMR3767	
5	60F Y DRIVE Assy	AWV2541	50	Y Drive Sheet B	AMR3769	
⚠ 6	POWER SUPPLY Unit	AXY1201	51	Y Drive Sheet A (M)	AMR3881	
⚠ 7	Ferrite Core (L1)	ATX1044	52	•••••		
⚠ 8	Ferrite Core (F1 - F8)	ATX1072	53	•••••		
9	Flexible Cable (J201)	ADD1523	54	Screw	ABA1351	
10	Flexible Cable (J202)	ADD1524	55	Screw	ABA1364	
11	Flexible Cable (J203)	ADD1525				B
12	Flexible Cable (J204)	ADD1526				
13	Flexible Cable (J205)	ADD1527				
14	Flexible Cable (J206)	ADD1528				
15	Flexible Cable (J207)	ADD1529				
16	Flexible Cable (J208)	ADD1530				
17	Flexible Cable (J209)	ADD1531				
18	Flexible Cable (J210)	ADD1532				
19	10P Housing Wire (J106)	ADX3609				
20	6P Housing Wire (J107)	ADX3610				C
21	5P Housing Wire (J108)	ADX3611				
22	5/3/3P Housing Wire (J112)	ADX3615				
23	5/3/3P Housing Wire (J113)	ADX3616				
24	5/3/3P Housing Wire (J114)	ADX3617				
25	5/3/3P Housing Wire (J115)	ADX3618				
26	6/3/3P Housing Wire (J120)	ADX3623				
27	7/3/3P Housing Wire (J121)	ADX3624				
28	12P/11P Housing Wire (J101)	ADX3672				
29	11P Housing Wire (J102)	ADX3673				D
30	Plate Y	ANG3133				
31	Nylon Rivet	AEC1671				
32	Ferrite Core Holder	AEC1818				
33	Flat Clamp	AEC1879				
34	Nylon Rivet	AEC2089				
35	Reuse Card Spacer	AEC2117				
36	PCB Spacer (Reuse)	AEC2122				
37	Flat Clamp	AEC2132				
38	Reuse Fastener	AEC2133				E
39	Reuse Wire Saddle	AEC2134				
40	Reuse PCB Spacer 6.0	AEC2135				
41	Reuse Locking Clamp	AEC2144				
42	Cap Spacer	AEC2145				
43	Mini PCB Spacer 5.0	AEC2149				
44	Drive Sheet	AEH1155				
⚠ 45	Power Assy Silicon	AEH1181				F

9.6 PANEL CHASSIS SECTION

A

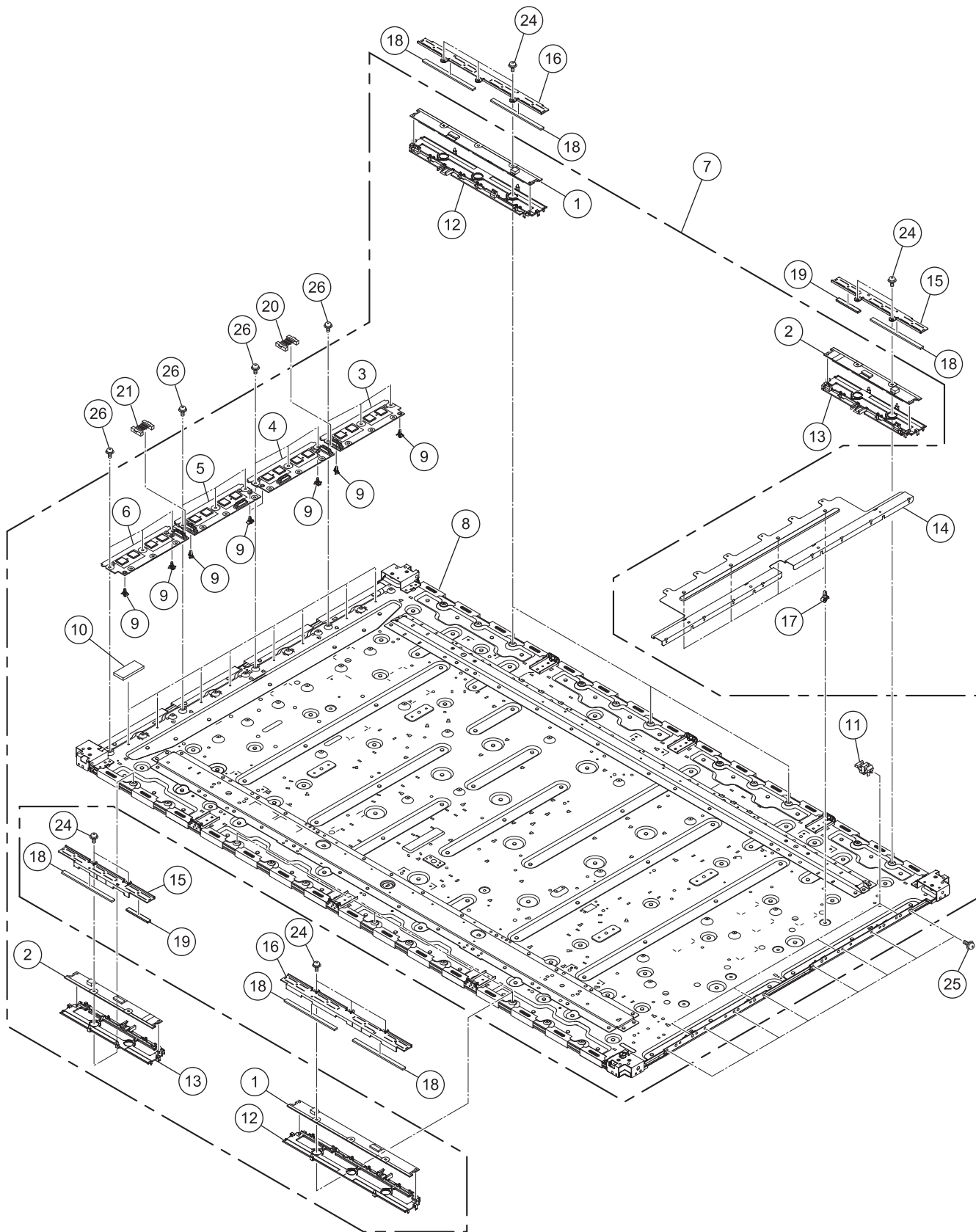
B

C

D

E

F



PANEL CHASSIS SECTION PARTS LIST

Mark	No.	Description	Part No.	
NSP	1	60F ADDRESS L Assy	AWW1341	
NSP	2	60F ADDRESS S Assy	AWW1342	A
NSP	3	60F SCAN A Assy	AWW1343	
NSP	4	60F SCAN B Assy	AWW1344	
NSP	5	60F SCAN C Assy	AWW1345	
NSP	6	60F SCAN D Assy	AWW1346	
NSP	7	P. Chassis (609FE) Assy	AWU1288	■
NSP	8	P. Panel (60FE) Assy	AWU1290	
	9	Reuse PCB Spacer 4.5B	AEC2161	
	10	Scan Sheet	AEH1154	
	11	Plate Holder	AMR3757	B
	12	Address Holder Assy L	AMR3758	
	13	Address Holder Assy S	AMR3759	
	14	Plate X	ANG3132	
⚠	15	Address Heatsink S	ANH1704	■
⚠	16	Address Heatsink L	ANH1705	
	17	PCB Spacer (Reuse)	AEC2122	
	18	Address Silicon A (508)	AEH1146	
	19	Address Silicon C	AEH1156	
	20	3 Piece Connector 15P (CN101)	AKM1393	C
	21	3 Piece Connector 15P (CN102)	AKM1393	
	22	.....	
	23	.....	
	24	Screw	ABA1351	
	25	Screw (M3 x 6) SN	ABA1366	■
	26	Screw	ABA1351	
				D
				■
				E
				■
				F

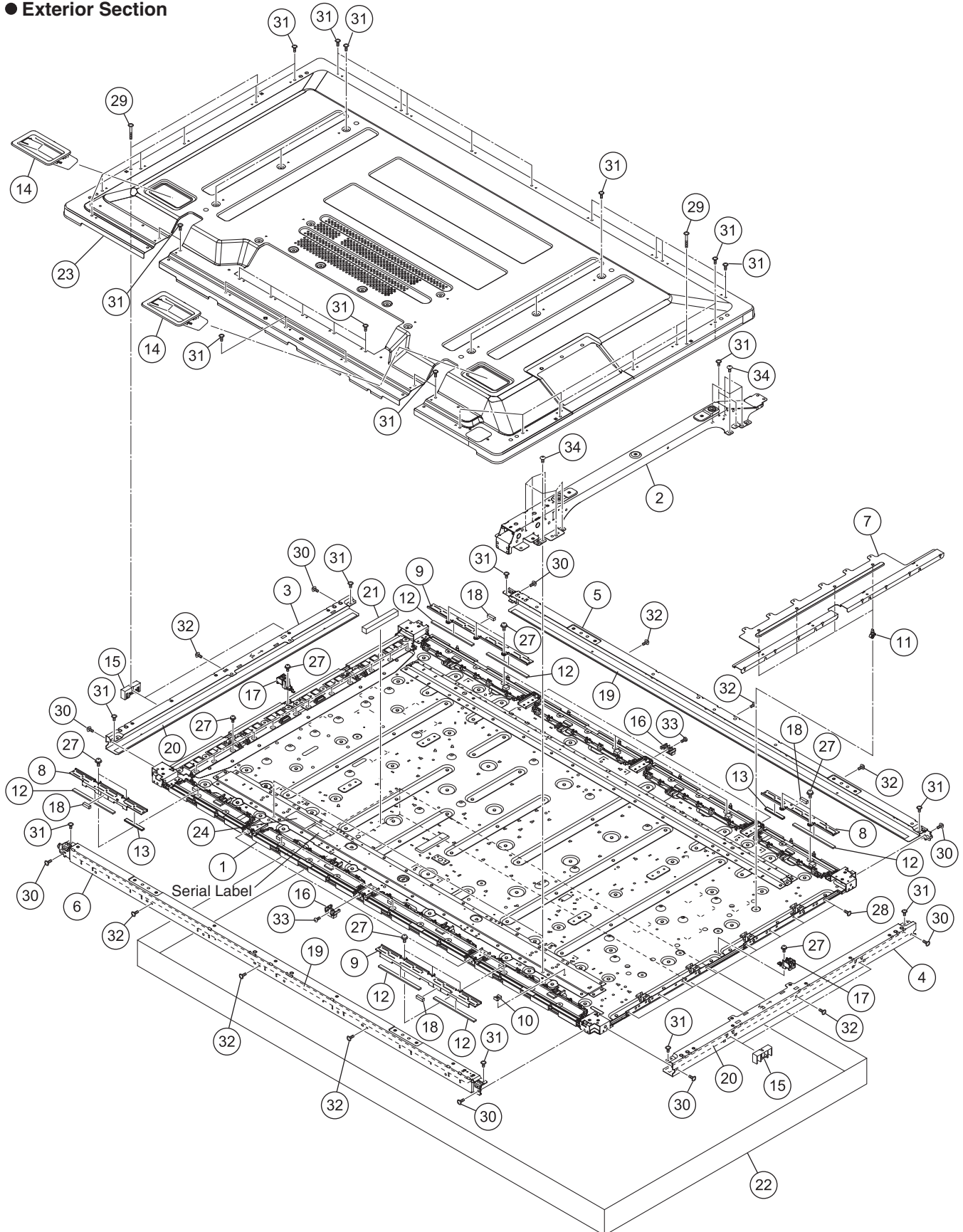
MULTIBASE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.	
⚠ 1	MAIN Assy	AWV2555	⚠ 49	Gasket (ES)	ANK1978	
2	IO_AUDIO Assy	AWW1354	⚠ 50	Gasket (10 x 8 x 15)	ANK1982	A
3	PC Assy	AWW1359	51	Nylon Rivet	AEC1671	
⚠ 4	Ferrite Core (F11, F12)	ATX1048	52	Card Lid	AMR3772	
⚠ 5	AC Inlet (CN1)	AKP1336	53	•••••		
6	Flexible Cable (J211)	ADD1533	54	•••••		
7	Flexible Cable (J212)	ADD1534	55	Hexagon Headed Screw	ABA1382	
8	Flexible Cable (J213)	ADD1535	56	Screw (M3 x 6)	ABA1377	
9	Flexible Cable (J214)	ADD1536	57	Screw	AMZ30P060FTB	
10	Flexible Cable (J215)	ADD1537	58	Screw	BMP40P080FSN	
⚠ 11	Housing Wire (J105)	ADX3608	59	Screw	BMZ30P060FTB	B
⚠ 12	Housing Wire (J104)	ADX3607	60	Screw	BPZ30P080FTB	
13	14P Housing Wire (J109)	ADX3612	61	Screw	PMB30P060FNI	
14	15P Housing Wire (J110)	ADX3613				
15	5P Housing Wire (J111)	ADX3614				
16	10/6/4P Housing Wire (J116)	ADX3619				
17	4P Housing Wire (J119)	ADX3622				
18	Rubber Sheet	AEB1498				
19	Cushion	AEB1499				
20	Wire Saddle	AEC1745				C
21	Wire Saddle	AEC1797				
22	Circuit Board Spacer	AEC1872				
23	Ferrite Stopper	AEC1981				
24	Reuse PCB Spacer 4.5	AEC2136 or AEC2161				
25	PCB Spacer	AEC2146				
26	•••••					
27	Clamp	AEC2156				
28	Edge Holder	AEC2159				
29	Silicon Sheet MTB A	AEH1174				D
30	Silicon Sheet MTB B	AEH1175				
31	•••••					
32	Sleeve	AMR3771				
33	•••••					
34	MTB Assy	ANA2150				
35	1..T Panel ES Assy	ANC2470				
36	2..Label B1 (ES)	AAX3573				
37	2..Label B2 (ES)	AAX3584				
38	2..Terminal Panel (ES)	ANC2465				E
39	Tuner Panel (ES)	ANG3161				
40	•••••					
41	Earth BKT A	ANG3182				
42	•••••					
43	•••••					
44	•••••					
⚠ 45	Gasket (10 x 10 x 80)	ANK1974				
46	•••••					
⚠ 47	Gasket (E)	ANK1981				F
48	•••••					

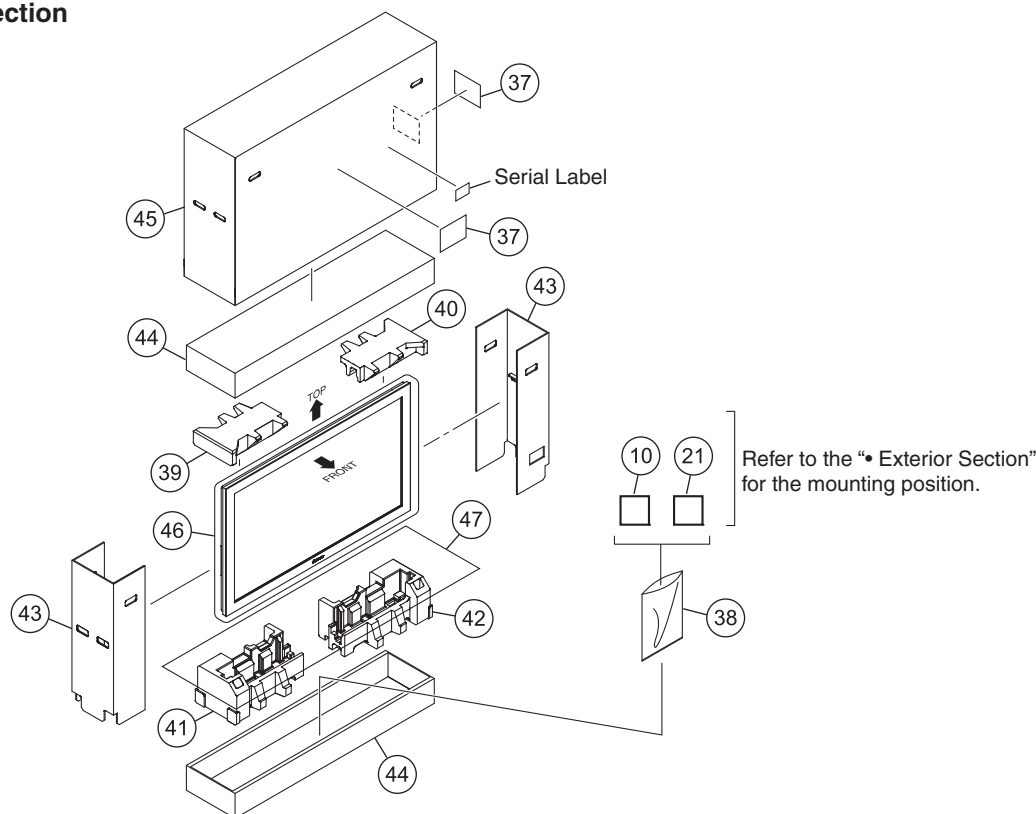
9.8 PDP SERVICE ASSY

PDP SERVICE ASSY 609FE : AWU1347

● Exterior Section



● Packing Section



PDP SERVICE ASSY PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	P. Chassis (609FE) Assy	AWU1344	26	•••••	
2	Sub Frame Assy	ANA2127	27	Screw	ABA1351
3	F. Chassis VL Assy	ANA2184	28	Screw (M3 x 6) SN	ABA1366
4	F. Chassis VR Assy	ANA2128	29	Screw (3 x 25 P)	ABA1380
5	F. Chassis HT Assy	ANA2132	30	Screw	ABZ30P080FTC
6	F. Chassis HB Assy	ANA2133	31	Screw	AMZ30P060FTB
7	Plate X	ANG3132	32	Screw	APZ30P080FTB
⚠ 8	Address Heatsink S	ANH1704	33	Screw	BMZ30P080FTB
⚠ 9	Address Heatsink L	ANH1705	34	Screw	TBZ40P060FTC
10	Ferrite Core Holder	AEC1818	35	•••••	
11	PCB Spacer (Reuse)	AEC2122	36	•••••	
12	Address Silicon A (508)	AEH1146	37	Caution Label	AAX3031
13	Address Silicon C	AEH1156	38	Vinyl Bag S	AHG1338
14	Inner Grip Assy	AMR3434	39	Pad (609 T-L)	AHA2722
15	Front Bezel Support	AMR3755	40	Pad (609 T-R)	AHA2723
16	F. Chassis H Guide	AMR3756	41	Pad (609 B-L)	AHA2724
17	Support Bracket	AMR3762	42	Pad (609 B-R)	AHA2725
18	Address Gasket	ANK1947	43	Sub Carton LR (609E)	AHC1110
19	Front Gasket H	ANK1960	44	Under Carton (609E)	AHD3666
20	Front Gasket V	ANK1961	45	Upper Carton (609SERV)	AHD3724
21	Gasket (10 x 10 x 80)	ANK1974	46	Protect Sheet	AHG1401
NSP 22	Front Bezel (609SERV)	AMB3106	47	Mirror Mat	AHG1402
23	Rear Case Assy 60	ANE1686			
NSP 24	Drive Voltage Label	ARW1097			
25	•••••				